

# Psychedelic Reflections



Edited by **Lester Grinspoon, M.D.**  
and **James B. Bakalar, J.D.**



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# Jacket flap:

This unique collection presents essays on psychedelics and their uses by those who have taken the drugs, worked with them, or observed their effects. Each author recalls and analyzes the significance of the drug experience from his or her own vantage point. Prominent figures, including Timothy Leary, Albert Hofmann, and Charles T. Tart, discuss the widespread popularity such drugs attained in the 1960s, the historical impact of psychedelic culture, and its remaining influences on present-day society. Detailed descriptions of usage patterns, resulting psychiatric problems, and adverse effects are provided, and the personal sociological and philosophical dimensions of mind expansion through drugs are explored.

A central theme of this work concerns the influence of psychedelics on users and society in general; the editors assert that the drugs have had more impact than is generally recognized. Many articles examine the creative potentials of mind-manifesting drugs including spiritual and psychological learning; self-actualization; mental liberation; therapeutic possibilities, and understandings that can be integrated into everyday life. Problems associated with drug usage are also discussed; there is a special note on adverse effects. This fascinating work is essential for any professional or layperson interested in psychedelic drugs or culture.

To Evelyn Betsy  
A quietly extraordinary woman

# PSYCHEDELIC REFLECTIONS

*Edited by*  
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**and**  
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## INTRODUCTION

The word "psychedelic" may now convey little more than a fading memory of the sixties—a wave of drug use and social rebelliousness that has receded and left behind only some popular music and art of nostalgic interest and words like "trip" and "mind-blowing" which have infiltrated the common vocabulary. Now that the world of psychedelic trips and cults has shrunk back into an inconspicuous corner of our minds and our social history, it seems hard to believe that anyone ever claimed for these drugs the power to provide entry to a wider social and mental universe with laws of its own. But there is more to psychedelic drugs than old illusions. Our world is not, as we were once told, a small part of the psychedelic universe, but the psychedelic universe is part of ours, and not so insignificant a part as is now generally assumed.

It is good that these drugs are no longer fashionable, but unfortunate that using them for serious purposes has also been made almost impossible; our understanding of these most complex and fascinating of drugs remains incomplete, and they represent unfinished business for psychological research and psychotherapy. We may be avoiding this unfinished business by ignoring what has already been done, as forgetting classically follows repression; we need to be reminded where psychedelic drugs have taken us—as a culture, in science, in psychiatry—and where we abandoned the journey. This topic has been difficult to discuss because it is entangled with the general problem of drug abuse and the special cultural conflict of the late 1960s and early 1970s. So, after receiving too much attention of the wrong kind for a few years, psychedelic drugs are now almost entirely neglected. The neglect is partly produced by a fear which may be dispelled if we hold up psychedelic experience to the light of what has been learned and then forgotten or repressed.

If the thoughts in this book are to be comprehensible to people who are only slightly more familiar with psychedelic drugs, readers will have to know more about what these drugs are and what effects they produce. But everything in this field has been a subject of controversy, including the word "psychedelic" itself and the defining characteristics of the substances to which it is applied. Most of the current names have acquired questionable political or cultural connotations, and all descriptions seem too restrictive considering the diversity and variability of the effects. The term "psychotomimetic," for example, has been used because of resemblances between some of the drug effects and some symptoms of schizophrenia and other psychoses. But the differences are also great, and even people who still use this term now agree that the psychedelic drug reaction cannot be closely identified with any naturally occurring psychosis.

Another familiar term, "hallucinogenic," was introduced because these drugs produce purely sensory distortions and perceptual changes largely without accompanying toxic effects on the body. But this expression too is misleading. "Hallucination" suggests perceiving imaginary objects,

which is not a typical effect of psychedelic drugs; and it says nothing about the changes in thought and feeling which are actually more important than perceptual distortions. Some drugs classed as hallucinogens under federal law, such as methylenedioxymphetamine (MDA), produce such thought and feeling changes without spectacular perceptual effects. Less familiar terms, used mostly by European psychiatrists, are "psychodysleptic" (mind-disrupting) and "psycholytic" (mind-loosening); these adjectives describe properties presumed to be useful in psychotherapy. Other suggestions are "phantasticant," which has a pleasantly poetic sound, and "oneirogenic" (causing dreams).

"Psychedelic" is not adequate, but neither is any other word; and it is perhaps the least misleading of the terms with any popularity, because it is the least specific. The psychiatrist Humphry Osmond invented it in a letter to the novelist Aldous Huxley in 1956, combining the Greek words *psyche* (mind) and *delos* (clear or visible) in a deliberately unorthodox (some would say incorrect) way. It is usually interpreted to mean mind-manifesting or mind-revealing. Osmond wanted a new word uncontaminated by any associations; but his terminological invention soon became associated with claims to superior awareness or religious enlightenment, and also with the peculiar features of the American drug culture of the 1960s, including certain styles in art and music. At one time it was so politically charged that choosing the word "psychedelic" over more traditional or clinical terms meant taking sides in a cultural civil war. Later the word was used condescendingly or scornfully, and to some people it now suggests faddish triviality. But we can ignore irrelevant associations here; Osmond intended no judgment on the specific nature or value of what psychedelic drugs reveal about the mind.

No account of drug effects which includes all and only the psychedelic drugs is possible, because their actions vary greatly and can be duplicated at times by other drugs. But a useful description for our purposes is the following: a psychedelic drug is one which, without causing physical addiction, craving, major physiological disturbances, delirium, disorientation, or amnesia, more or less reliably produces thought, mood, and perception changes otherwise experienced mainly in dreams (including nightmares), contemplative and religious exaltation, flashes of vivid involuntary memory, and acute psychosis.

Hundreds of psychedelic drugs are known today; some are plant products (alkaloids), and many more are synthetic, devised in twentieth-century chemical laboratories. The three most famous are the extraordinarily potent LSD (lysergic acid diethylamide), which is a synthetic derivative of a compound produced by a grain fungus called ergot; mescaline, which is manufactured by the peyote plant and a few other species of cactus; and psilocybin, found in about a hundred species of mushrooms. There are a number of natural psychedelic compounds chemically related to LSD and psilocybin; dimethyltryptamine (DMT) and the harmala alkaloids are the best known of these. Over a hundred synthetic chemicals known as psychedelic amphetamines have been developed, among them MDA (3,4-methylenedioxymphetamine), MDMA (2-methoxy-4,5-MDA), DOM (2,5-dimethoxy-4-methylamphetamine), also known as STP, and DOET (2,5-dimethoxy-4-ethylamphetamine). Like mescaline,

they are structurally related to the familiar stimulant drug amphetamine. All these natural and synthetic substances have recognizable similar (although not identical) effects, but their potencies vary greatly. Several other drugs which do not chemically resemble LSD, mescaline, or psilocybin have more or less distantly related effects, and have been used historically for similar purposes in healing, ritual, and recreation; for example, muscimole, produced by the fly agaric mushroom, tetrahydrocannabinol, produced by the cannabis plant, and ketamine, a synthetic drug used as an anesthetic. Even the gas nitrous oxide is sometimes inhaled for a kind of psychedelic experience.

Most of the effects produced by psychedelic drugs can be elicited in other ways too, but usually not with such ease, consistency, and intensity. Overdoses of other drugs and poisons sometimes produce a kind of hallucinatory or psychedelic experience which is usually unpleasant because of the accompanying toxic physical side effects. Similar experiences not caused by drugs may be associated with the same kinds of chemical changes in the body and brain. These include not only the involuntary states occurring in dreams and in extreme situations like psychosis, starvation, isolation, and high fever, but also the many techniques for altering consciousness that have been elaborated, tested, and passed on by tradition for thousands of years: hypnotic trance, repetitive chanting, prolonged wakefulness, revivalist exhortation, song or dance, fasting, hyperventilation, special postures, exercises, and techniques for concentrating attention. One of the most interesting aspects of the study of psychedelic drugs is the light it throws on these other unusual states of mind.

The most important point to understand about the nature of psychedelic experience is its tremendous range and its dependence on individual set and social setting. All drug effects vary with the character and expectations of the user and the physical and social environment, but psychedelic effects vary far more than those of other drugs. Aldous Huxley called taking mescaline "a voyage to the mind's Antipodes;" sometimes it is like the discovery of the New World, or a visit to the celestial spheres; and yet it can also be like sitting in an airport all day waiting for the plane to take off. As small a matter as opening or closing the eyes, changing the music, or slightly increasing the dose can transform the quality of the experience. In experiments, most drugs make all the subjects feel more alike; psychedelic drugs actually tend to accentuate any differences in mood that exist among them at the start. The narratives of psychedelic drug trips are as luxuriant and varied as myths, dreams, and psychoanalytical revelations. In a sense there is no "psychedelic effect" or "psychedelic state;" to say that someone has taken LSD tells little more about the content and import of his experience than to say that he has had a dream.

An account of the forms of psychedelic experience is implicit in what the authors in this book say about the uses of psychedelic drugs, but a more general view of their effects on perception, thought, and feeling may also be helpful. First, sensory perceptions become especially brilliant and intense. Normally unnoticed aspects of the environment capture the attention; ordinary objects are seen as if for the first time and acquire new depths of significance. Esthetic responses are greatly heightened: colors seem more intense, textures richer, contours sharpened, music more emotionally

profound, the spatial arrangements of objects more meaningful. People may feel keener awareness of their bodies or sense changes in the appearance and feeling of body parts. Depth perception is often heightened and perspective distorted; inanimate objects take on expressions, and synesthesia (hearing colors, seeing sounds, etc.) is common. Time may seem to slow down enormously as more and more passing events claim the attention, or it may stop entirely, giving place to an eternal present. When the eyes are closed, fantastically vivid images appear: first geometrical forms and then landscapes, buildings, animate beings, and symbolic objects.

The emotional effects are even more profound than the perceptual ones. The drug taker becomes unusually sensitive to faces, gestures, and small changes in the environment. As everything in the field of consciousness assumes unusual importance, feelings become magnified; love, gratitude, joy, sympathy, lust, anger, pain, terror, despair, or loneliness may become overwhelming, or two seemingly incompatible feelings may be experienced at once. It is possible to feel either unusual openness and closeness to others or exaggerated distance that makes them seem like grotesque puppets or robots. The extraordinary sensations and feelings may bring on fear of losing control, paranoia, and panic, or they may cause euphoria and bliss.

Short-term memory is usually impaired, but forgotten incidents from the remote past may be released from the unconscious and relived. Introspective reflection with a sense of deep, sometimes painful insight into oneself or the nature of humanity and the universe is common; often the experience seems somehow more real or more essential than everyday life. There are also profound changes in the sense of self: the ego may separate from the body (dissociation), or the boundary between self and environment may dissolve.

At deeper levels, drug users may regress to childhood as they relive their memories, or they may project themselves into the series of dreamlike images before their closed eyelids and become the protagonists of symbolic dramas enacted for the mind's eye. Actions, persons, and images in this dream-world or even in the external world may become so intensely significant and metaphorically representative that they take on the character of symbols, myths, and allegories. Loss of self may be experienced as an actual death and rebirth, undergone with anguish and joy of overwhelming intensity. In some cases the culmination is a mystical ecstasy in which for an eternal moment all contradictions seem reconciled, all questions answered, all wants irrelevant or satisfied, all existence encompassed by an experience that is felt to define the ultimate reality, boundless, timeless, and ineffable.

Some of these effects are more common than others, but none is guaranteed to occur. Many recreational users have probably never experienced the more profound and extraordinary effects, which are usually produced by larger doses, closed eyes, and deep introspection. At any dose, a great deal depends on the time, the place, and the persons involved. Each drug experience is a unique journey of exploration into the mind.

This collection came about because we discovered, while doing a survey of literature on psychedelic drugs (Grinspoon & Bakalar, 1979), that they have had a greater permanent influence than is usually acknowledged

on the lives of some of their users and on society in general. This influence can be overwhelming or subtle; it has sometimes changed the direction of an individual life completely, and it may have changed the direction of our society as well.

Recognizing this, we asked a number of articulate people who are familiar with the drugs to portray that influence in whatever terms they considered appropriate. We chose the term "reflections" to emphasize that the book is not meant to be an anthology of subjective drug experiences, on the one hand, or a collection of detached pharmacological and clinical observations, on the other. We sought passages of recollection and analysis by people who have used psychedelic drugs or observed their effects over the years, and are now able to say something about what the drugs have meant in the long run to their own lives or the lives of others they have known. We asked contributors to write about what they had learned from psychedelic drugs, and we tried to choose people with various points of view which would reflect the kinds of learning that are possible. It might involve a gain in self-knowledge or a change in intellectual or professional interests or both; it could also be learning from mistakes made with drugs.

Some contributors are known as authorities on psychedelic drugs or the psychedelic drug culture, and others are simply users describing the effects on their own lives. Some of the essays tend more toward the scholarly, others more toward the personal. The results show different proportions of autobiography, memoir, sociology, cultural history, literary or psychiatric commentary, and religious or philosophical speculation. The topics range from historical and anthropological speculations to accounts of psychedelic drug therapy. Since we did not request writing about a set topic, any given essay may refer to a wide variety of subjects, and the divisions we have chosen for purposes of organization may sometimes be slightly misleading about the character of a particular piece. We have no party line to impose as a judgment upon the nature and value of psychedelic experience, only an interest in seeing it explored further; so the authors often disagree with one another and with us. In the introductions and afterword we have added some of our own reflections.



Part One

# **HISTORY AND PATTERNS OF PSYCHEDELIC DRUG USE**

Although they are relatively new to our society, the story of hallucinogenic or psychedelic drugs goes back thousands of years. They have long been used in pre-industrial cultures all over the world as intoxicants, for healing, and in magical and religious rites. The visionary and ecstatic states induced by certain plants are regarded as encounters with the divine made possible by spirits incarnate in them; their power is used to foretell the future, to attain desires by witchcraft and magic, to diagnose and cure disease, and especially to perform what we call psychotherapy. In most cultures the power of the drug plants is appropriated by or entrusted to certain people who are called by names like shaman, witch-doctor, medicine man, *curandero*, and sorcerer. They either take the drug themselves or supervise its use by a client or patient. In their ceremonial context, the drugs tend to confirm the authority of the sacred symbols and beliefs of a culture; often the visions themselves are culturally stereotyped.<sup>1</sup>

The Western Hemisphere was the center of pre-industrial psychedelic plant use; here, over a hundred species were known, as compared with fewer than a dozen in the Eastern Hemisphere.<sup>2</sup> It is not clear whether the reasons are botanical or cultural. The anthropologist Weston LaBarre has postulated a "New World narcotic complex" (we would prefer the term "psychedelic complex") based on the aboriginal hunter's need to incorporate supernatural power by achieving a vision and obtaining an individual guardian spirit for help in the hunt or in war. The shaman who has been through the initiatory crisis himself and is trained to guide others serves as the keeper of the society's traditions. Agricultural societies, LaBarre points out, are less dependent on individual luck and prefer collective rituals to private ecstatic experiences; the paleolithic hunting life and its shamanistic religion persisted much longer in the New World (LaBarre, 1972).

The mind-altering plants used most widely in the Western Hemisphere before Columbus were coca, which contains the drug cocaine, and tobacco, which contains the drug nicotine; the former was grown in South America only, the latter in both North and South America. They are not, of course, hallucinogenic or psychedelic at normal doses, although their stimulant powers can be used as an aid to inducing visions and trances. The plants that can be called genuinely psychedelic, those containing substances related to LSD, mescaline, and psilocybin, are used mainly in Mexico and the Amazon. Amazon Indians use snuffs and drinks made from various mixtures of plants containing harmala alkaloids, dimethyltryptamine (DMT) and other tryptamines; these concoctions have names like *yage*, *ayahuasca*, and *natema*. In Mexico the most important drug plants are the peyote cactus, psilocybin mushrooms, and two species of morning glory containing lysergic acid amides, which are closely related to LSD.

The Indians of Mexico have always had the world's largest pharmacopoeia of psychoactive plants; they were used first by shamans and sorcerers, and later, under the Aztec and Maya empires, by state-supported priestly hierarchies. The Spanish conquerors regarded most of these drugs as an incarnation of the devil. Anathematized by the Catholic Church, prohibited by the authorities, and believed until recently to be extinct, the old magical and healing practices continued in remote rural

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<sup>1</sup> The best survey of hallucinogenic plant use is Furst, 1976.

<sup>2</sup> A useful set of readings on this is Schleiffer, 1973.

areas where the drug plants have been rediscovered and identified in the last forty years by a series of scholars. Prominent among them are Richard E. Schultes, Roger Heim, R. Gordon Wasson, and Albert Hofmann.

With the mention of these living authorities, we reach the modern period in the history of psychedelic drugs. Their reception in modern industrial society is a complicated topic, because their influence has been broad and occasionally deep, varied but often hard to define. By now millions of people in the United States and Europe at all levels of society have used them; they have served as a vacation day from the self and ordinary waking consciousness, as professional or self-prescribed psychotherapy, and as the inspiration for works of art, especially rock songs, the folk music of the electronic age. They have also provided a basis for metaphysical and magical systems, an initiatory ritual and cultural symbolism for dissident groups; their use has been condemned and advocated as a political act or heretical religious rite. From the early 1960s on, the cultural history of psychedelic drugs is inseparable from the episode that has become known as the hippie movement. When the hippies were at the center of the public stage, so were psychedelic drugs. As the hippie movement is assimilated, losing its distinctiveness but leaving many residues in our culture, psychedelic drugs move to the periphery of public consciousness, but continue to exert a similar subtle influence.

The starting point of this history is as indeterminate as the definition of a psychedelic drug. We might begin with the introduction of distilled liquor, the "elixir of life," in the thirteenth century, the seventeenth-century arrival of coffee and tobacco in Europe, or the stimulus provided by the artificial paradises of opium and hashish to the imaginations of such men as Coleridge, De Quincey, and Baudelaire in the nineteenth century. Another beginning is the gas nitrous oxide, discovered in 1772 and introduced as an anesthetic in the 1840s, which inspired William James to write some eloquent passages on drug-induced mysticism and its relation to philosophical questions. But no social precedent for public recognition of this phenomenon existed until the drug revolution of the 1960s intensified the search for mind-altering chemicals and provided drug users with ideologies and models for organization.

The rapid development of experimental physiology and pharmacology in the late nineteenth century generated an extensive search through folk pharmacopoeias for new drugs and efforts to extract the active principles of familiar ones. Cocaine and aspirin were two of the drugs discovered or synthesized; another was mescaline, the latest successor to opium, cannabis, and anesthetics as a creator of artificial paradises. As early as the 1920s enough knowledge had been accumulated for several substantial books: Alexandre Rouhier's *Peyotl: La plante qui fait les yeux émerveillés* (1927); Karl Beringer's *Der Mescalinausgang* (1927); and the first work attempting a formal classification and analysis of mescaline visions, Heinrich Klüver's *Mescal: The 'Divine' Plant and its Psychological Effects* (1928).

Several other mind-altering alkaloids, including ibogaine and harmaline, were introduced to the West in the late nineteenth and early twentieth centuries, and by 1941 Schultes and others had rediscovered the sacred mushrooms and morning glories of Mexico. Synthetic drugs were developed too; the psychedelic amphetamine MDA was synthesized as early as 1910, and in 1932 Gordon Alles (the discoverer of amphetamine) tested it

on himself and described the effects. So when LSD appeared there was already an established tradition of literary and medical research into the properties of drugs that would later be called psychedelic or hallucinogenic.

Albert Hofmann himself describes below his famous discovery of LSD in 1943. The first phase of the drug's history lasted until the early 1960s. During this period it was supplied to medical researchers in Europe and America as an investigatory drug. The idea of a family of hallucinogenic, psychotomimetic or psychedelic drugs was conceived. Throughout the 1950s and early 1960s psychedelic drugs, mainly LSD and mescaline, were rather freely available to physicians and psychiatrists in Europe and the United States. They were regarded as promising therapeutic agents or as interesting new tools for exploring the mind. They did not seem particularly damaging to the mind or body—nor even attractive enough to become a drug abuse problem, since their effects seemed variable and as often terrifying or emotionally exhausting as pleasant. Havelock Ellis had remarked at the turn of the century that mescaline might succeed opium and hashish as a euphoriant, and others since had testified to the occasional beauty and wonder of the psychedelic experience; but only a few men like Aldous Huxley were prescient enough to imagine before 1960 that LSD and mescaline would rise to higher social visibility or become a larger cultural phenomenon than nitrous oxide had been in the nineteenth century.

Even in the 1950s, interest had not been confined to laboratories and hospital research wards. The psychedelic experience was so intense and impressive that those who did not retreat in horror sometimes became proselytes. The new interest in psychedelic drugs had the same kinds of sources as earlier drug vogues: medical researchers and psychiatrists who were trying LSD themselves and giving it to their friends and private patients; botanists, anthropologists, and amateur scholars continuing the search for psychedelic plants in the tradition of Lewin and Schultes; and literary people of the kind who have always taken inspiration from new forms of drug-induced consciousness change. This time the synthetic chemists were also at work ingeniously manipulating molecular structures to create new compounds either derived from the natural psychedelics or suggested by them.

In 1955 Huxley spoke of "a nation's well-fed and metaphysically starving youth reaching out for beatific visions in the only way they know"—through drugs (Young & Hixon, 1966, p. 48). In an article on mescaline in the *Saturday Evening Post* in 1958 he suggested that it might produce a revival of religion (Huxley, 1977, pp. 146-156). The fulfillment of his prophecies began when college students yearning to free themselves from the stuffy complacency of the 1950s fell under the influence of academic and literary figures promoting psychedelic drugs as a means for the permanent transformation of consciousness.

Timothy Leary, represented by an essay here, was most highly visible among many leaders of the new movement. By the mid-1960s, to paraphrase W.H. Auden's line about Freud, LSD was no longer a drug but a whole climate of opinion. The psychedelic trip was one of the great influences on what came to be called the counter culture—a social world of its own with characteristic dress, art, music, and philosophical notions. In invigorating polemical exchanges, conservative medical authorities or

lawmen would declare the use and users of LSD sick and dangerous, and psychedelic drug advocates would reply that it was they, the established powers, who were sick and dangerous: rigid, repressed, afraid to confront their deepest selves and see the futility of their lives, desperate to prevent others from doing so and escaping their own control. Charges and counter-charges like this gave the impression that there really was a unified counter culture engaged in vigorous nonviolent war with the established system. The spirit of rebellion created by the black liberation movement and, above all, by the war in Vietnam merged with that of the drug revolution. While psychedelic drugs were still a novelty, they had the power to give people a new conception of themselves and make them adhere, temporarily at least, to a new way of life. The emphasis was on youth; Leary flattered people under twenty-five by calling them "the wisest and holiest generation that the human race has ever seen" (Leary, 1968a, p. 46).

Youth often meant hippies, and to drop out you usually had to turn on. It was not a question of how often the drugs were used; sometimes once was enough, and many people experienced a kind of cultural contact high without taking drugs at all. But by democratizing visionary experiences, LSD made a mass phenomenon of attitudes and ideas that had been the property of solitary mystics, esoteric religions, eccentric cults, or literary cliques.

The hippie movement in its visions combined a theoretical benevolence and gentleness with an interest in communitarian experiments, the occult, magic and exotic ritual. Middle-class young people, unwilling to submit to what they saw as the hypocrisies and rigidities demanded by adult jobs and roles, tried to prolong the freedom and playfulness of childhood as far as possible into adulthood: to make the culture a youth culture. American society was attacked as a dehumanizing, commercialized air-conditioned nightmare, meanly conformist in its manners and morals, hypocritical in its religion, murderous and repressive in its politics; it outlawed the liberating psychedelic drugs and approved of enslaving alcohol and nicotine. A transformed way of life would be built on the intimations provided by LSD, the "mind detergent" that purged the psyche and midwived a personal rebirth as the first step toward a new form of community. The formula included self-realization, freedom from inhibition, communal ecstasy, expanded awareness, cleansed perception, essential rather than superficial religion, and a new spiritual order in which Blake's "mind-forged manacles" would be broken and our oneness with the universe recognized. Hippies were expected to withdraw from the economy of conspicuous consumption and competitive emulation to live in holy poverty. Some intelligent observers in fact agreed that here was "a significant new culture aborning," (Roszak, 1969, p. 38)—a prediction that has not, or not yet, been borne out.

If there was an enemy, it was conformist society, the straight world, adults, medical authorities, the government, the law, and so on—a situation well defined in the title of a book by Nicholas von Hoffman: *We Are the People Our Parents Warned Us Against*. But things were not so simple. America confronted the hippies with a mixture of attraction and repulsion, summed up in the two public faces of the lazy, dirty, hedonistic, promiscuous, and parasitical dope fiend and the radiantly angelic product of the love generation. Some professional people—sociologists,

psychologists, journalists, clergy—were so excited by the hippies' proclamations of messianic transcendence and social revolution that they invested disappointed hopes for drastic and immediate change in a movement that made promises far beyond its capacities.

The law hesitated for a while and then came down on the side of repressing psychedelic drugs. In the early days they were not treated with the peculiar moralistic severity reserved for substances classified as "narcotics" (including, ironically, the much milder marihuana). But that changed in 1966 with new federal drug laws. Under the present comprehensive federal drug law, which was enacted in 1970, most "hallucinogens" including marihuana are classified as drugs with a high potential for abuse and no current medical use; possession for personal use is a misdemeanor, unauthorized manufacture or sale a felony. State laws are similar to the federal law.

LSD reached the height of its popularity in the late 1960s and early 1970s, so apparently its use was not much affected by the law. By 1971 it was estimated that 5,000,000 Americans had taken a psychedelic drug (McGothlin, 1975). Although there has been a slow decline in the use of psychedelic drugs since then, even today it appears from surveys that almost as many people are experimenting with them as in the late sixties; only fewer are trying to build a vision of the universe and a way of life on them, or suffering adverse reactions. People have apparently learned how and when to use and not to use psychedelics, and better understand their virtues, limitations, and dangers. As often happens after a new drug has been on the scene a while, epidemic abuse has stopped. Culturally, LSD is not now a major signal of rebellion or cause for alarm any more than long hair on men. The hippies are no longer on the public stage.

Drug use in modern industrial society is often contrasted pejoratively with primitive and pre-industrial drug use as haphazard, hedonistic, individualistic, psychologically disturbed and disturbing, and culturally disintegrative rather than unifying. There is some truth in this, but with closer study the resemblances become more striking than the differences. Every cultural pattern of psychedelic drug use found in Mexico and South America was reproduced in some form in the United States in the 1960s: shamanistic healing corresponds to the use of LSD by psychiatrists; cults like Bwiti and the peyote religion correspond to the psychedelic churches; an adolescent Indian seeking a vision is like a college student trying, in the accepted phrase, to find himself through drugs; the Yanomano Indians of Venezuela taking their psychedelic snuff at a festival are not so different from a group of hippies swallowing LSD at an outdoor rock concert.

Even the contrast between idiosyncratic and culturally stereotyped visions is questionable: the psychedelic experiences described in accounts of American Indian life are often just as private and idiosyncratic as those that occur in contemporary industrial society, and in any case the psychedelic movement in the United States produced its own collective symbolism and sacred communal rites. The most important difference is that the psychedelic movement was at least apparently in conflict with the larger culture instead of confirming its authority.

American Indian life provides parallels for this too, for example in the conflict between Mexican shamans and the Aztec priesthood. And by now American culture has reconciled itself to psychedelic drugs in a backhanded

way. Those who want to obtain the drugs usually can, and much less attention is devoted to their virtues and dangers or their social significance now than at the height of the cultural civil war in the 1960s. Along with what used to be called the underground or drug or counter culture or psychedelic or drug counter culture, psychedelic drug use has been assimilated by liberal industrial societies as another more or less tolerated and more or less scorned minority diversion, custom, or ideology.

The essays which follow give some glimpses into the recent history and sociology of psychedelic drugs. Albert Hofmann tells the story of his discovery and his later adventures with psychedelic drugs. Timothy Leary supplies some characteristically idiosyncratic observations on the significance of the psychedelic scene ten years ago and today, expounding the controversial opinions familiar from his earlier career, and updating them. Norman Zinberg presents a realistic picture of some common patterns of illicit psychedelic drug use.

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## **LSD—MY PROBLEM CHILD**

**Albert Hofmann**

There are experiences that most of us are hesitant to speak about because they do not conform to everyday reality and defy rational explanation. These are not particular external occurrences, but rather events of our inner lives, which are generally dismissed as figments of the imagination and barred from our memory. Suddenly, the familiar view of our surroundings is transformed in a strange, delightful, or alarming way: it appears to us in a new light, takes on a special meaning. Such an experience can be as light and fleeting as a breath of air, or it can imprint itself deeply upon our minds.

One enchantment of that kind, which I experienced in childhood, has remained remarkably vivid in my memory ever since. It happened on a May morning—I have forgotten the year—but I can still point to the exact spot where it occurred, on a forest path on Martinsberg above Baden, Switzerland. As I strolled through the freshly greened woods filled with bird song and lit up by the morning sun, all at once everything appeared in an uncommonly clear light. Was this something I had simply failed to notice before? Was I suddenly discovering the spring forest as it actually looked? It shone with the most beautiful radiance, speaking to the heart, as though it wanted to encompass me in its majesty. I was filled with an indescribable sensation of joy, oneness, and blissful security.

I have no idea how long I stood there spellbound. But I recall the anxious concern I felt as the radiance slowly dissolved and I hiked on: how could a vision that was so real and convincing, so directly and deeply felt—how could it end so soon? And how could I tell anyone about it, as my overflowing joy compelled me to do, since I knew there were no words to describe what I had seen? It seemed strange to me that I, as a child, had seen something so marvelous, something that adults obviously did not perceive—for I had never heard them mention it.

While still a child, I experienced several more of these deeply euphoric moments on my rambles through forest and meadow. It was these experiences that shaped the main outlines of my world view and convinced me of the existence of a miraculous, powerful, unfathomable reality that is hidden from everyday sight.

I was often troubled in those days, wondering if I would ever, as an adult, be able to communicate these experiences; whether I would have the chance to depict my visions in poetry or paintings. But knowing that I was not cut out to be a poet or artist, I assumed I would have to keep these experiences to myself, important as they seemed to me.

Unexpectedly—though scarcely by chance—a link was established in middle age between my profession and these visionary experiences from childhood.

Because I wanted to gain insight into the structure and essence of matter, I became a research chemist. Intrigued by the plant world since early childhood, I chose to specialize in research on the constituents of medicinal plants. It was the pharmaceutical-chemical research laboratories of the Sandoz Company in Basel that provided me the opportunity to work in this field. Here I began my professional career in spring 1929, first as co-worker with Professor Arthur Stoll, then as group leader, and finally as head of the department for research on natural products. Among the various research projects on medicinal plants, the one studying active principles of ergot was the most important of my professional career. Ergot is produced by a lower fungus (*Claviceps purpurea*) that grows parasitically on rye and on other species of grain and also on wild grasses. Kernels infested with this fungus develop into light-brown to violet-brown curved pegs, into ergot. Ergot of rye (*Secale cornutum*) is the variety used medicinally. Although it was once feared as the cause of mass poisonings, in the course of time ergot has become a rich storehouse of valuable remedies.

It was in this framework of investigations on ergot that the potent psychotropic drug known as LSD originated. Over and over I hear or read that LSD was discovered by accident. This is only partly true. LSD came into being within a systematic research program, and the "accident" did not occur until much later. LSD was already five years old when I first happened to experience its unforeseeable effects in my own body—or rather in my own mind.

The first achievement in my work on ergot was the partial synthesis of the alkaloid ergometrine, also called ergonovine, which is the specific oxytocic, uterotonic principle of ergot. This synthesis consisted in combining lysergic acid, which is the common nucleus of all ergot alkaloids, with the aminoalcohol propanolamine in peptide linkage into lysergic acid propanolamide, identical with ergometrine. I then attempted to improve the pharmacological properties of ergometrine by variations of the aminoalcohol radical. By substitution of the propanolamine contained in ergometrine with the aminoalcohol butanolamine, an active principle was obtained that surpassed the natural alkaloid in its therapeutic properties. This improved ergometrine has found worldwide application as a dependable uterotonic, hemostatic remedy under the trade name "Methergine," and is today the leading medicament for this indication in obstetrics.

The new synthesis procedure was further employed to produce new lysergic acid compounds for which uterotonic activity was not prominent, but from which, on the basis of their chemical structure, other types of interesting pharmaceutical effects could be expected. In 1938, I prepared

the twenty-fifth substance in this series of lysergic acid derivatives: lysergic acid diethylamide, abbreviated LSD-25 (*Lyserg-saure-diäthylamid*) for laboratory usage.

I had planned the synthesis of this compound with the intention of obtaining a circulatory and respiratory stimulant (an analeptic). Such stimulating properties could be expected for lysergic acid diethylamide because it shows similarity in chemical structure to an analeptic already known at that time, nicotinic acid diethylamide (Coramine). During the testing of LSD-25 in the pharmacological department of Sandoz, whose director at the time was Professor Ernst Rothlin, a strong effect on the uterus was established. The research report also noted that the experimental animals became restless during the narcosis. The new substance, however, aroused no special interest in our pharmacologists and physicians; testing was therefore discontinued.

For the next five years, nothing more was heard of the substance LSD-25. Then a peculiar presentiment—the feeling that this substance could possess properties other than those established in the first investigation—induced me to produce LSD-25 once again, so that a sample could be given to the pharmacological department for further tests. In the final step of the synthesis, during the purification and crystallization of lysergic acid diethylamide in the form of a tartrate (tartaric acid salt), I was interrupted in my work by unusual sensations. The following description of this incident comes from the report that I sent at the time to Professor Stoll:

Last Friday, April 16, 1943, I was forced to interrupt my work in the laboratory in the middle of the afternoon and proceed home, being affected by a remarkable restlessness, combined with a slight dizziness. At home I lay down and sank into a not unpleasant intoxicated-like condition, characterized by an extremely stimulated imagination. In a dreamlike state, with eyes closed (I found the daylight to be unpleasantly glaring), I perceived an uninterrupted stream of fantastic pictures, extraordinary shapes with intense, kaleidoscopic play of colors. After some two hours this condition faded away.

This was, altogether, a remarkable experience—both in its sudden onset and its extraordinary course. It seemed to have resulted from some external toxic influence; I surmised a connection with the substance I had been working with at the time, lysergic acid diethylamide tartrate. But this led to another question: how had I managed to absorb this material? Possibly a bit of LSD solution had contacted my fingertips during crystallization, and a trace of the substance was absorbed through the skin. If LSD-25 had indeed been the cause of this bizarre experience, then it must be a substance of extraordinary potency. There seemed to be only one way of getting to the bottom of this; I decided on a self-experiment.

Exercising extreme caution, I began the planned series of experiments with the smallest quantity that could be expected to produce some effect, namely 0.25 mg (mg = milligram = one thousandth of a gram) of lysergic acid diethylamide tartrate. Quoted below is the entry for this experiment in my laboratory journal of April 19, 1943.

*Self-experiment.* 4/19/43 16:20 : 0.5 cc of ½ promille aqueous solution of lysergic acid diethylamide tartrate orally = 0.25 mg LSD tartrate. Taken diluted with about 10 cc Water. Tasteless.

17:00 : Beginning dizziness, feeling of anxiety, visual distortions, symptoms of paralyses, desire to laugh.

Supplement of 4/21 : Home by bicycle. From 18:00 to ca. 20:00 most severe crisis. (See special report)

Here the notes in my laboratory journal cease. I was able to write the last words only with great effort. By now it was already clear to me that LSD had been the cause of the remarkable experience of the previous Friday, for the altered perceptions were of the same type as before, only much more intense. I asked my laboratory assistant, who was informed of the self-experiment, to escort me home. We went by bicycle, no automobile being available because of wartime restrictions on their use. On the way home, my condition began to assume threatening forms. Everything in my field of vision wavered and was distorted as if seen in a curved mirror. I also had the sensation of being unable to move from the spot. Nevertheless, my assistant later told me that we had traveled very rapidly. Finally, we arrived at home safe and sound; and I was just barely capable of asking my companion to summon our family doctor and request milk from the neighbors.

In spite of my delirious, bewildered condition, I had brief periods of clear thinking—and chose milk as nonspecific antidote for poisoning.

The dizziness and sensation of fainting became so strong at times that I could no longer hold myself erect, and had to lie down on a sofa. My surroundings had now transformed themselves in more terrifying ways. Everything in the room spun around, and the familiar objects and pieces of furniture assumed grotesque, menacing shapes. They were in continuous motion, animated, as if driven by an inner restlessness. The lady next door, who brought me milk, was no longer Mrs. R., but rather a malevolent, insidious witch with a lurid mask.

Even worse than these demonic transformations of the outer world were the alterations that I perceived in my self, in my inner being. Every exertion of my will, every attempt to put an end to the disintegration of the outer world and the dissolution of my ego, seemed to be wasted effort. A demon had invaded me, had taken possession of my body, soul, and mind. The substance with which I had wanted to experiment had vanquished me. It was the demon that scornfully triumphed over my will. I was seized by the dreadful fear of going insane. I was taken to another world, another time. My body seemed to be without sensation, lifeless, alien. Was I dying? Was this the transition? At times I believed myself to be outside my body, and then perceived clearly, as an outside observer, the complete tragedy of my situation. A reflection took shape, an idea full of bitter irony: if I was now forced to leave the world prematurely, it was because of lysergic acid diethylamide that I myself had brought into the world.

By the time the doctor arrived, the climax of my despondent condition had already passed. He shook his head in perplexity at my attempts to describe the mortal danger that threatened my body. He could detect no

abnormal symptoms except extremely dilated pupils. Pulse, blood pressure, breathing were all normal. He saw no reason to prescribe any medication.

Slowly I came back from a weird, unfamiliar world to reassuring everyday reality. The horror diffused and gave way to a feeling of good fortune and gratitude. Now, little by little, I could begin to enjoy the unprecedented colors and plays of shapes that persisted behind my closed eyes. Kaleidoscopic, fantastic images surged in on me, alternating, variegated, opening and then closing on themselves in circles and spirals, exploding in colored fountains, rearranging and hybridizing themselves in constant flux. It was particularly remarkable how every acoustic perception, such as the sound of a turning door handle or a passing automobile, became transformed into optical perceptions. Every sound generated a vividly changing image, with its own consistent form and color.

Midnight had passed when I fell asleep, exhausted; I awoke next morning refreshed, with a clear head, though still somewhat tired physically. A sensation of well-being and renewed life flowed through me. The world was as if newly created. All my senses vibrated in a condition of highest sensitivity, which persisted for the entire day.

This first planned experiment with LSD that led to the discovery of its extraordinary high hallucinogenic activity was a dramatic one. It was a terrifying experience, because I did not know whether I would ever return from an uncanny world into my normal state of consciousness.

Subsequent tests with volunteers of the Sandoz research laboratories confirmed the extraordinary activity of LSD on the human mind. It turned out that the medium effective oral dose of LSD in human beings is 0.03 to 0.05 mg. In spite of my caution, I had chosen for my first experiment five times the average effective dose.

LSD was unique in its extremely high and specific hallucinogenic potency. But it was not new in the quality of its hallucinogenic property. The first hallucinogen available in chemically pure form was the alkaloid mescaline, the active principle of the sacred Mexican cactus peyotl (*Lophophora williamsii*) investigated already at the turn of the century by the Berlin pharmacologist Louis Lewin, the German chemist Arthur Heffter, and the Austrian chemist Ernst Spath. The medium effective human oral dose of mescaline is 0.2 to 0.4 g, which means that LSD is about 10,000 times more active than mescaline. Mescaline made it possible to investigate the phenomenon of hallucinogenic effects from a scientific pharmacological and clinical point of view, using a pure chemical compound. The results of this first period of psychopharmacological and clinical investigations were published in the classical monographs of Karl Beringer (1927)<sup>2</sup> and Heinrich Klüver (1928).<sup>3</sup> However, in the years to follow, the interest in hallucinogenic research faded. Not until the discovery of LSD did this line of research receive a new impetus leading to an upsurge of interest, which has lasted to the present time.

In its first 10 to 15 years, LSD was not yet a problem child; it started as a well-behaved and gifted child, carefully supervised in the sphere of reputable science. The high specific psychotropic activity of LSD made it a valuable tool for psychiatric and neurophysiological research. It attracted worldwide interest in professional circles and was distributed by Sandoz

under the trade name Delysid, together with a prospectus, describing its possible applications, its dangers, and necessary precautions, to psychiatrists and research institutions.

The indications for the use of LSD mentioned in the Sandoz prospectus were the following:

- a) Analytical psychotherapy, to elicit release of repressed material and provide mental relaxation, particularly in anxiety states and obsessional neuroses.
- b) Experimental studies on the nature of psychoses: by taking Delysid himself, the psychiatrist is able to gain an insight into the world of ideas and sensations of mental patients. Delysid can also be used to induce model psychoses of short duration in normal subjects, thus facilitating studies on the pathogenesis of mental disease.

During those first years of LSD research, numerous publications appeared in professional journals reporting promising results from use of LSD in psychiatry and biology.

LSD became a problem child for me—and also for the Sandoz Company—when, first in the United States, it was swept into the wake of a wave of inebriant use which spread rapidly at the beginning of the 1960s; and for a time, particularly as regards publicity, LSD was the number one inebriant. Through careless use not corresponding to its deep psychic activity, and through confusion of LSD with a pleasure-producing inebriant in the drug scene, there resulted all the accidents and catastrophes that have given LSD the reputation among many people of a satanic drug. As a result of this development, extremely severe governmental restrictions were imposed on the distribution and use of LSD even for medicinal and scientific purposes, restrictions that interrupted nearly all investigations with this agent.

After my first self-experiment, which had revealed LSD in its terrifying, demonic aspect, the last thing I could have expected was that this substance could ever find application as anything approaching a pleasure drug. I failed, moreover, to recognize the meaningful connection between LSD inebriation and the wondrous visionary experiences of my childhood, depicted at the beginning of this chapter. That happened only later, after further experiments, which were carried out with far lower doses and under different conditions, experiments without disturbing psychiatric tests and in an artistic environment. In those private LSD sessions in company with good friends, writers, and painters, I experienced the euphoric effects of LSD, sometimes even a celestial transformation of reality, similar to the spontaneous visionary experiences of childhood.

The difference taught me the importance of set and setting for the outcome of an LSD session, which was confirmed later from many sides.

A further important result of my personal LSD experiments was the observation that hallucinations, that is, perceptions in the absence of real objects, do not represent a characteristic feature of LSD effects. They occur principally with very high doses and are really already toxic effects. The designation "hallucinogen" is therefore not entirely correct for LSD and

similar agents. Indeed, several other designations have been proposed, and are current now, such as "psychotomimetics," "psychedelics," and, very recently, "entheogens".<sup>4</sup> The most important, intrinsic characteristic of LSD activity seems to me the transformation of the accustomed, everyday world view—an altered experience of reality, which is connected with a loosening or even suspension of the I-world, I-you barrier. This can be perceived as a blessed or as a demonic transformation of the world. In the auspicious case, the ego feels blissfully united with the objects of the outer world and consequently also with its fellow humans. But the loss of ego may also be imbued with terror.

The investigations with LSD were the reason that 15 years after its discovery another hallucinogen, the sacred Mexican mushroom *teonanacatl*, found its way into my laboratory. The American ethnologist who had rediscovered the ancient mushroom cult of the Indians, R. Gordon Wasson, and the French mycologist Roger Heim, who had studied the botanical aspects, sent me samples of the mushroom for chemical analysis. My co-workers and I succeeded in isolating the active principles from the mushroom *Psilocybe mexicana*, which we named "psilocybin" and "psilocin".<sup>5</sup> Subsequently, R. Gordon Wasson provided me with samples of another ancient Mexican drug: *ololiuhqui*, still used in our day by some Indian tribes in the Southern mountains of Mexico in religious ceremonies and magic medicinal practices. *Ololiuhqui* is the Aztec name for seeds of the convolvulaceous plants *Turbina corymbosa* and *Ipomoea violacea*. The chemical analysis led to the astonishing result that the active principles were lysergic acid derivatives very closely related to lysergic acid diethylamide (LSD): namely, lysergic acid amide, lysergic acid hydroxyethylamide, and some minor constituents of this chemical type.<sup>6</sup>

Thus, according to its characteristic psychic activity and chemical structure, LSD belongs to the group of sacred Mexican drugs. LSD must be regarded as a chemically modified *ololiuhqui* constituent. This significant characteristic of LSD merits attention. The alkaloidal constituents of *ololiuhqui* are also found in ergot species from the wild grasses growing around the Mediterranean basin. It has been suggested that some of these ergot species were used as a sacramental drug in ancient Greece in the Eleusinian Mysteries, just as the Mexican Indians use *ololiuhqui* in their religious ceremonies.<sup>7</sup>

This close relationship of LSD with sacred drugs used in a religious context could point to the role that LSD should play in our society. The Indians of Mexico still use *peyotl*, *teonanacatl* and *ololiuhqui*, but they have no drug problem. Respecting the deep, overwhelming psychic effects of the hallucinogens, they have put a tabu on them. They remain in the hands of the *curandero* or *curandera*, the wise man or wise woman, the priest-doctor of the Indians. This attitude should also be ours; it would allow governmental restrictions to be loosened and make LSD available to the priest-doctors of our society, the psychiatrists. Under their supervision it would be possible to continue to explore the full potentials of this unique agent.

As long as this fails to happen, LSD will remain my problem child.

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## SOME SUPERFICIAL THOUGHTS ON THE SOCIOLOGY OF LSD

Timothy Leary

In 1973 the federal drug agency estimated that over 7 million Americans had used LSD. When this number of people engages in an activity passionately denounced by every respectable organ of society as dangerous, immoral, and illegal, we have a social phenomenon which is worthy of study. Here is a fascinating development: a new sin!

Other contributors to this volume have attempted to explain the significance of this event. I can add only a few observations which I hope will encourage anthropologists and sociologists to undertake more systematic analysis of the survival implications of this mass behavior. Even a Gallup poll in which users could describe the effect that LSD tripping had on their lives might produce provocative data, if we are ready to face the facts.

### *It Was just One of Those Times*

The post-war baby boom generation that came into post-adolescence during the 1960s was probably the most affluent, confident, indulged crop in human history. Many social forces conspired to encourage this group to expect and demand more from life. The sixties kids were free from economic fears that dominated the lives of their depression-scarred parents. The country was in a period of expansion and growth. Recruiters from large businesses used to line up on campuses to beg students to consider well-paying jobs! The nuclear fears that plagued the fifties were quiescent. The new psychology of personal growth, developed by Carl Rogers, Abraham Maslow, encounter groupies, reactivated the basic American-Emersonian values of self-exploration, self-reliance, transcendence of fear-inspired orthodoxies. The art world, always seminal in cultural change, seethed with the effects of expressionism, improvisation, individualism. Even the staid physical sciences were exploding with theories of relativity, alternate realities, expanding universes.

This had happened before. At other wonderful moments in history when cultures reached similar states of national security, economic prosperity, imperial confidence, the inevitable next step has been to look within, to encourage novel art forms and life-styles, to tolerate individual

search for new meaning—self-indulgence, as opposed to survival drudgery and coerced indulgence of elite rulers. Exactly at these times when philosophy, science, art, religion vibrate with transcendent energies, two things often happen: external exploration into undiscovered geographical realms, and inner exploration using brain-change drugs.

The first book of the Vedas, our oldest spiritual text, emerging at the time of the Aryan conquest of India, defined the drug *soma* as the basic tool for philosophic inquiry. The Athenians, then inhabiting the western fringe of civilization, were bold sailors. Pioneer navigators are always self-reliant, empirical, anti-dogma people. The Greek mystery cult of Eleusis, which invigorated Mediterranean thought for several centuries, used psychobotonicals in its rebirth ceremonies.

The Renaissance eruption of individuality and free thought inspired great explorations, east and west, which brought back herbs, spices, unguents which added to the hedonic movements of the time. Robert Gordon Wasson and other scholars have tried to demonstrate that most of the great world religions were based on inner exploration employing brain-changing vegetables. The British Empire was supported for over a century by the opium trade, which was clearly related to the flowering of romantic, mystical, transcendental thought in England. Darwin, for example, was a chronic hypochondriac and a respectable dope fiend.

Is it entirely accidental that our own space program, booming out to the stars, occurred exactly when our LSD-inspired inner-tripping was at its height? When the sense of national pride and confidence diminished during the Nixon years, both inner and outer exploration decreased. No surprise to any student of cultural evolution.

Can any acceptable history of our species fail to note the effects of drug cultures and hedonic booms on the evolution of art and knowledge? Is it still too early for scholarly examination of our current drug culture, its antecedents and consequences? Well, let's make a small beginning.

### *Why Did the LSD Boom Decline?*

We have just considered, superficially, some factors which lead to the emergence of a hedonic-philosophic drug culture—why, when, and how they emerge.

Conservatives are quick to point out that transcendental, self-indulgent movements usually lead to the fall of civilizations so plagued. Did not hot tubs, eastern drugs, and mystical cults sap the martial vigor of Imperial Rome?

Probably. But we must hasten to add that it was natural and right that Rome fall. In the unbroken migration of intelligence and individual freedom from east to west, Rome had its day in the sun. But would you want to be ruled today from Italy? High civilizations do not fall; they blossom and send their seed pollens westward. Look, have not the descendants of the wily Italians planted their roots today in Hollywood and Las Vegas? According to such observers as Kissinger, Herman Kahn, Rev. Falwell, and the Shah of Iran, our current hedonic drug culture represents a corruption, a sophistication, an aestheticization of the puritan American ethos. But in their self-serving zeal to restore the old morality, these

imperialists fail to realize that hedonic movements go through predictable states of growth just like other social phenomena, and that the current American transcendentalism has hardly gotten started.

Hippies were the first, naive, innocent, idealistic babies of the new neurological-information society. Hippies were dumb, passive consumers of the new technology, childish Utopians who believed that tie-dyed clothes, Grateful Dead concerts, and parroted love slogans were the ultimate flowers of evolution.

The hippie wave declined because it was too passive. Whoopee! Enlightenment at the nearest drug store! Advertising usually does get ahead of production in the development of new culture-changing technologies, and I am ready to accept responsibility for that. No blame, though. When a species wants an evolutionary tool, it will get it in a generation or two. By 1970 there were, apparently, some 7 million lazy consumers expecting to be given the easy ticket to brain-change. Meanwhile the feds had snuffed out the few reliable manufacturers. Predictably, the land was flooded with "bad acid." Good-hearted amateurs combined with unscrupulous scoundrels to distribute an inferior product.

Now "bad acid," let's face it, is infinitely worse than bad wine or bad sex or bad music. It can be argued that there **is** no experience quite as painful as a bad LSD trip.

Thus the wholesome decline in LSD use, which stimulated exactly what the drug culture needed to smarten up. People were no longer so naively Utopian. They warily thought twice before tripping. And the challenge which no sophisticated chemist could resist, to produce good LSD, was thrown down.

### *The Third Generation of Brain-Change Drugs*

The first generation of psychedelic technology involved primitive preparation of botanicals: opium pipes, hashish hookas, the rolling of joints. The second generation of psychedelic technologies involved the synthesis of mescaline, psilocybin, LSD, DMT, STP, MDA—all crude, Wright Brothers, Model T stuff.

The third generation of brain-change drugs **is** now appearing in plentiful quantities. Just as computers today are more efficient, cheaper, more reliable than those thirty years ago, so are the new drugs. Home domestication of mushrooms **is** one example.

The time-consuming, complex, delicate, unwieldy procedures for synthesizing LSD have been streamlined so that, from police reports of seizures and sociological observations, we learn that more LSD is being used today than in the sixties. There is almost no publicity because drug usage is no longer a trendy topic for the media and politicians. We have new problems—oil, economics, the new cold war. There are almost no bad trips being reported because the acid is pure and because the users are sophisticated. The average suburban teenager today knows more about the varied effects of brain-change drugs than the most learned researchers 20 years ago. The proliferation of knowledge always works this way. The socialization of drugs has followed the same rhythm as the use and abuse of air travel, automobiles, computers.

And the next decade will see the emergence of dozens of new, improved stronger, safer psychoactive drugs. Any intelligent chemist knows it: there is an enormous market of some 50 million Americans today who would joyfully purchase a safe euphoriant, a precise psychedelic of short duration and predictable effect, an effective intelligence increaser, a harmless energizer, a secure sensual enhancer. An aphrodisiac! For millennia, every intelligent person undergoing the vicissitudes of survival-preoccupation and aging has longed for an effective aphrodisiac. Only recently have we realized that the ultimate, indeed the only, pleasure organ is the brain, an enormous 30 billion-cell hedonic gland waiting to be activated.

The last two decades have just whetted humanity's eternal appetite for technologies to activate and direct one's own brain function. The drug movement has just begun.

### *The Resurgence of Good Old LSD*

The increased usage of acid is the forerunner of what is to come, and much can be learned from its resurgence. Now that the hysteria has died down, is it not obvious that LSD, pure LSD, is simply the best recreational/enlightenment drug around? A curious reversal of Gresham's Law seems to operate. If good dope is available it will be preferred. If good dope is in short supply, then bad drugs will be used. *Good dope drives out bad dope.* F.D.A. and D.E.A. please copy.

During the recent LSD shortage did we not see a shocking emergence of teen-age alcoholism? Don't you remember how drunks were scorned in the high school in the sixties? The horrid PCP mania is directly caused by the acid drain. So is the cocaine madness, the post-Shah heroin epidemic. Looking at the shoddy replacements, is it not clear that psychedelic drugs are exactly what our Harvard research showed them to be in the sixties? Wonderful gifts from the plant queendom to the animal kingdom; activators of those circuits of the brain that lead to philosophic inquiry, scientific curiosity, **somatic** awareness, hedonic life-style, humorous detachment, high-altitude tolerant perceptions, **ecological** sensitivity, **Utopian** communality.

Weren't the sixties, in retrospect, a decade of romance, splendor, optimism, idealism, individual courage, high aspirations, aesthetic innovation, spiritual wonder, exploration, and search? As President Reagan might have said, weren't we happier about each other and more optimistic when the high times were rolling?

### *The Winter of Fear and Discontent*

Our psychedelic drug research projects at Harvard and later Millbrook vigorously addressed the task of developing brain-change methods for eliminating human ignorance and suffering. We knew it could be done and that, eventually, it would be done. Biochemical knowledge will be applied to manage the synaptic patterns which keep people bogged down in repetitious helplessness. Self-managed brain control is in the future deck.

This seemed so common-sensible that it was hard for us to understand how any open-minded person could oppose the planful accessing of altered states of consciousness. Granted that the field was new and the avalanche of new data confusing, the parallels to the discovery of the microscope and telescope were so obvious that we were naively unprepared for the instinctive revulsion expressed by so many intelligent, distinguished scientists at the notion of brain change. Alan Watts, always the wry student of history, never tired of reminding us that Vatican astronomers consistently refused to look through Galileo's telescopes.

Our initial romantic idealism was soon sobered by the realization that there are powerful genetic mechanisms, reinforced by society, geared to react with fear at the approach of the new. This neo-phobia obviously has a survival value. At every stage of evolution each gene-pool has been protected by those with nervous systems wired to cry *Danger! Caution!*

The evolutionist urging change says "There is nothing to fear except fear itself." The survivalist replies, "There is everything to fear except fear itself." At most periods of human history those who promote fear have been in ascendance. When we examine every other form of life we see that a nervous, jumpy, animal alertness to danger is a constant preoccupation.

At certain times in the emergence of civilization, optimistic change-agents, believers in progress, manage to push our species into new adventures. Then, inevitably, the forces of caution, reason, tradition reimpose fear to preserve what the change agents have created.

America has, since its conception, represented the optimistic, progressive future probe of the human race. Our land was founded by restless visionaries from the Old World, who decided that anything new was better than the status quo. Such people are genetically wired to stir up excitement and adventure and unsettling discovery. This Red-White-and-Blue romantic pursuit of liberty and happiness, it seems to me, peaked in the 1960s. A generation of young Americans threw caution to the winds and recklessly rejected the fear-imposed systems that have kept human society surviving—the work ethic, male domination, life-style conformity, inhibition of sensuality and self-indulgence, reliance on authority.

Fear, which has always been the glue that holds human hives together, was temporarily replaced by audacious, grinning confidence in a self-directed future.

Since our research had demonstrated that set and setting determine the course of an altered state experience, we consistently broadcast signals of intelligent reassurance: "trust your nervous system, go with the flow, the universe is basically a beautiful and safe place." We were amazed to witness otherwise intelligent and open-minded persons doing everything in *their* power to instill fear, to cry danger, to slander the brain with negativity. Do we recall the hoax perpetrated by the Pennsylvania Hospital director who invented the lie that eight patients were blinded by looking at the sun while high on LSD? The chromosome-breaking prevarication? The armies of police officials visiting high schools to warn that smoking LSD would lead to rape and murder? We were forced to conclude at one point that LSD does indeed cause panic and temporary insanity in bureaucrats who have never touched the stuff.

We were comforted by the history of science. Every new technology which compels change in life-style or in view of human nature has always taken one generation to be socialized and domesticated. The more furious and extravagant the attacks on LSD, the more certain that an important mutational process was involved.

What was lost in the furor was any rational attempt to assay what was really happening. Few Americans realized, for example, that the drug culture was the planful creation of an extraordinary group of scholars and people-movers who worked in loose, but conscious coordination to sponsor self-directed brain-change: Aldous Huxley, Gerald Heard, R.D. Laing, Arthur Koestler, Alan Watts, Henry Luce, Robert Gordon Wasson, Humphry Osmond, the Menlo Park cadre, the Spring Grove task force, Stanislaus Grof, Ken Kesey, Allen Ginsberg, Paul Bowles, William Burroughs, Huston Smith, Cary Grant, the brigades of philosopher-musicians who used lyrics to teach, the armies of writers and underground-newspaper editors, the film-makers, the chemists. Never, perhaps, since the Renaissance and Athens, had so many culturally influential people been allied around a philosophic concept.

Also discarded in the controversy was any rational, scientific attempt to keep score. Granted that a lot of mentally disturbed persons took acid and then blamed the drug for their genetic instability. But there was never any comparative census count. Now that the smoke has cleared, we see that far from inducing window-jumping and self-destruction, the suicide rate for young people actually dropped during the LSD boom. Suicide is caused by boredom and hopelessness—and certainly these factors were lowered during the sixties.

And surely it is obvious that psychedelic drugs, including cannabis, lower the violence indices. There are more alcohol-induced episodes of violence in one weekend these days than in the 20 years of psychedelic drug-taking. More kids are killed and crippled in any weekend by booze-plus-automobile-driving than two decades of psychedelic consumption. There is no evidence to counter the claim that LSD drastically lowered the incidence of physical danger in those who tripped. It was Vietnam that killed 50,000 young Americans and several million natives. Acid is probably the healthiest recreational pursuit ever devised by humans. Jogging, tennis, and skiing are horrendously more dangerous. If you disagree, show me your statistics.

This is not to say that the real dangers of LSD were exaggerated. Consciousness-altering drugs change minds and loosen attachments to old customs. Change triggers off intense fear reactions. Acid is a scary thing.

No one said it was going to be simple, and here is another complication. Acid should not be taken by scared persons or in a fearful setting. America is a spooked country these days. The genetic caste of danger-criers is operating in full voice. Never in our history has the national mood been so gloomy and spooky. The cause is obvious. Change causes fear and the change rate is accelerating beyond comprehension and control. All the familiar comforts of yesterday are eroding with ominous rapidity. Population rises, and all the indices of intelligence, educational achievement, civility, physical and economic security are plummeting. At the same

time, paradoxically, the accomplishments of our scientific elite are eliminating the basic, eternal causes of human helplessness. Geneticists and immunologists predict that aging and death will be cured within a decade. The space program has opened up a new frontier of unlimited energy, unlimited raw materials, unlimited room for migration. The new information society based on computers and home communication centers is multiplying human intelligence to undreamed capacities. We are being flooded with new and better brain-change drugs.

The only way to understand and keep up with this acceleration of knowledge is to accelerate brain function. There are three suggested solutions to the seething, volatile situation which we now face. The religious answer is that since apocalypse is inevitable, the only thing to do is *Pray*.

The politicians assure us that the only thing to do is grab what you can and protect what you've got.

The scientific answer is to increase intelligence, expand your consciousness, surf the waves of change planfully. The future is going to spin faster and wilder, of that we can be sure. If you don't like acid, rest assured you're not going to like the future. Now, more than ever before, we need to gear our brains to multiplicity, complexity, relativity, change. Those who can handle acid will be able to deal joyfully with what is to come.

### *A Personal Note*

People often ask me if, in hindsight, I would do it all over again. My answer, in foresight, is: like it or not, we *are* doing it over again. And better.

## THE USERS SPEAK FOR THEMSELVES

**Norman E. Zinberg\***

The research project from which the information in this essay emerged was conceived in 1971-1972 and was courageously supported by The Drug Abuse Council, Inc. from 1973 till 1976.<sup>1</sup> Preliminary findings were sufficiently encouraging for the National Institute on Drug Abuse to fund the study through June 1981.<sup>2</sup> At that time, marihuana, psychedelics, and opiates were the drugs whose use was of the greatest concern, and therefore the ones whose patterns of use were chosen for this study. The last year in which psychedelic drug use increased at a great rate (131 percent, according to the National Commission on Marihuana and Drug Abuse) was 1973.<sup>3</sup>

The two underlying hypotheses of the project were far more controversial in 1971-1972 than they would be today, although they are still far from being generally accepted. In brief, the leading hypothesis was that in order to understand what impels someone to use an illicit drug and what the effects of that drug on the user are, one must consider three determinants: drug (the pharmacologic action of the substance itself), set (the attitude of the person at the time of use, including his personality structure), and setting (the influence of the physical and social setting.)<sup>4,5</sup> these three, setting had been the least considered and understood and therefore was to be the focus of investigation, although the principal focus was always to be on the interaction of the three variables.<sup>6,7</sup>

The other hypothesis concerned the way in which the setting functioned to affect drug choice, use, and effect. The project team planned to study the ways in which users developed socially-determined sanctions (or rules) for use and buttressed those rules by social rituals. The derivation of and evidence for these hypotheses are discussed elsewhere, along with the supporting anthropological and historical studies.<sup>8-11</sup>

We will describe how subjects were located and selected, and then let the subjects speak for themselves. Because the study concerns an illicit activity, finding a representative sample of subjects was virtually impossible. However, we attempted to secure as diverse a group as possible in terms of age, sex, race and other basic demographic and drug-use characteristics. The research team, other drug users, and independent consultants

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\* This work was done in direct collaboration and partnership with Wayne M. Harding who was Project Director of the research, with the invaluable assistance of Miriam Winkeller and Shirley A. Stelmack.

to the project felt satisfied that our sample reflected the larger population of psychedelic drug users. The excerpts from interviews are unedited except for changes of proper names that might otherwise be recognizable.

### *Locating Users*

Subjects were located not only through social agencies and advertisements in the local community and counterculture press, but also through friends of subjects and acquaintances of members of the research team. We paid \$5 an hour for each interview. All interviews were tape recorded with the approval of the subjects; on occasion they asked that the tape recorder be turned off before certain statements were made. To ensure confidentiality, tapes were numbered, and the code by which they could be recognized was stored in Canada so that it could not be subpoenaed.

Although locating users of drugs was easy, finding those who used only the drugs that the project was considering proved very difficult. We discovered that people do not use only marihuana or only psychedelics or only opiates. Moderate polydrug use is the norm. But most of the people interviewed had a favorite drug, their "drug of choice," and we made each user's relation to this drug the primary focus. Throughout, we followed one essential rule: no one was to be accepted who was dependent on any drug, except tobacco, no matter what that drug was, licit or illicit.

The project turned up many more controlled marihuana and psychedelic users than we could possibly interview. The 71 subjects discussed in this essay were selected by telephone screening to be sure we had representative circles of users who differed in age, sex, racial and social background, and using patterns. The interviews ran approximately 2 hours and were repeated after 1 year and again after 2 years.

### *The Users Speak*

Both our study and others indicate that few people appear to continue to use psychedelic drugs often for a long time.<sup>12-14</sup> In fact, in our sample, none did. Fifty-six percent report daily or weekly use as their highest frequency. The mean length of most intensive use for psychedelic users was 13.78 weeks (S.D. = 14.14, range = 1-52) compared to 86.48 weeks (S.D. = 107.05, range = 4.5-364) for controlled marihuana users, and 48.11 weeks (S.D. = 56.46, range = 1-260) for controlled opiate users. That no one would get "hooked" on psychedelics was and is certainly now well known, but the general public and the users themselves often describe transitory periods of heavy use as a kind of addiction. This description is based not on any belief in a physiological or even psychological dependency, but rather on an assessment of the subjective feeling produced by these drugs. It is an astonishingly high-impact experience, whether positive or negative:

Respondent: We prepared for our first acid trip.

Interviewer: What did you do?

R: Well, first of all, I trusted him to be my guide, sort of. I had read that you needed a guide, a guru, in case anything bad happened. Well, we were in love, and he had tripped a few times, and he had never had any bad experience, he said.

- I: What did you do?
- R: We went to his house in the country. We ate bee pollen before we dropped the acid tabs.
- I: Bee pollen?
- R: Yeah. I didn't know but Jim said that acid eats up the B vitamins in your system, and bee pollen would protect us from that.
- I: I see.
- R: We spent some time together at first, getting close to each other. We braided each other's hair. We took a blanket and walked about a mile into the woods, to a very sunny spot surrounded by rocks and trees. Oh, this acid, one of Jim's friends had already tried it and he said it was very gentle, good for a first trip. He said the trip would last a few hours, so we dropped it in the late morning so we could enjoy it in the afternoon and come down that night in the country house where no one else would be around. And we didn't have to work the next day, so I wasn't worried about getting too. . .
- I: What happened?
- R: Oh, it was lovely, just lovely. At first, for about an hour, nothing happened, and I thought, Oh, this isn't working, maybe something's wrong with me. But then I notice how beautiful and how sort of real the rays of sunlight on the rocks were. It was like I'd never seen sunlight before. It looked like rays of butterscotch. And the little animals, grasshoppers and squirrels and birds came out, and it was like they weren't afraid of it because we were so at peace, and they knew we wouldn't hurt them. I felt at one with nature. It's something I've looked for since then but have never experienced it again. And, we looked into each other's eyes and we were friends and we weren't afraid and we made love, there on the blanket in the woods.
- I: What were your bad trips like?
- R: Very paranoid, felt like, just got very paranoid, and I wouldn't go near anybody, and I'd feel freaked out by everybody, and I would think something was happening which wasn't. At one point, I thought—I was at this party and I was tripping and I had a bad trip, and I thought I was supposed to fight all these people. It was, it was a really bad trip.

As we will show, no one seems to be able to sustain such levels of stimulation, and it becomes repetitious.\* In addition, tolerance develops quickly, and this tends to confirm the user's judgment that he is becoming addicted.

### *Beginning Use, Social Sanctions, and Social Rituals*

"Having plans for use" was the single rule adhered to by the highest percentage of subjects (61 percent). What appears central is the construction of rules or sanctions and rituals, not whether they are entirely sensible. A plan to have a day free following a trip is eminently sensible, while eating

bee pollen is purely romantic ritual, but both indicate a respect for the drug and a decision to try to use it safely in order to avoid destructive consequences.

Once tolerance had developed, subjects found they could control the effects of tripping in order to deal with commonplace circumstances, if need be. Until then, however, none of these subjects, in contrast to marihuana- or opiate-using subjects, could conceive of working or carrying out other general activities while using a psychedelic drug.

Of all drugs, psychedelics are surrounded by the strongest, best articulated, and most carefully followed social sanctions and social rituals. The sanctions or rules were especially important both to establish controls over excessive use (during their initial fascination with the drug, users did not realize that excessive use was unlikely) and to establish control over the experience itself, which is seen as more demanding and important than any other drug experience. The wish is to have this powerful experience but at the same time find ways to limit or control it. The user needs sanctions that will allow him what he wants and also protect him from what he fears. Psychedelic and marihuana users share some of the same fears about possible health hazards, such as chromosome breaks or defective conceptions. Fears of social and psychological damage, however, are present to a much greater degree than among marihuana users. With marihuana, it is chiefly the beginning user who is anxious about such things. Experienced marihuana users, although they know of a few actual misusers, generally feel they have enough control over the drug to avoid social and psychological harm. Experienced psychedelic users, on the other hand, know from their own experience and from what they have observed in their peers that trouble will follow unless sanctions are observed; and even if care is taken, there are worries:

R: Once it would be fucking beautiful sunshine, but then next time would be like, you know, in the corner holding your balls like a rat. You know, just, your throat is dry, you can barely speak 'cause you're fucking poisoned 'cause you took a heavy dose and—I had a few of those.

Half of our subjects reported an adverse reaction, usually a bad trip; 22 percent knew someone who had had an adverse reaction to the use of psychedelics.

R: This guy that I really knew well, a graduate student who published this political magazine, he was physicist, a graduate student, more into studies than I was but I was in mathematics—he used to take some really incredible stuff. And his brother is Jim Smith, the rocker. And so in 1962, I guess, I guess it was '61 or '62, that winter, he went to Cambridge where they were doing the original Leary stuff, and he did a huge dose. I guess they didn't know in those days what was an appropriate dose, or something, and he went essentially psychotic.

The concern about controlling the effects of these drugs has been evident since the beginning of their more widespread, general use, around 1963. Before that, experimental use of the drugs as adjuncts to psychotherapy, as

treatment for alcoholism, and for sensitizing therapists to nuances of psychological disruption (the drugs were then known as psychotomimetics) had gone on for some years without arousing great anxiety. But these experiments took place in medical or other highly controlled and protected settings which provided defined limits almost automatically. Once the Timothy Leary "Tune In, Turn On, and Drop Out" use of psychedelics became paramount, the promise of a religious experience, a oneness with the universe, insight into oneself and all other mysteries was balanced by the equivalent possibility of a freak-out, a bad trip, a lasting psychosis, or genuinely irreversible personality change.

Thus, the search for reliable, limiting sanctions began quickly after the use of these drugs became general. All our subjects stated they had multiple rules, i.e., social sanctions, for use. Aside from "plans for use" (61 percent), already mentioned, these rules included "never use with strangers" (44 percent), "never use in a strange place" (39 percent), "never use alone" (39 percent), "do not let significant others know of use" (22 percent), "make special schedules for use" (28 percent), "clean the surroundings before use" (11 percent), rules about obtaining the drug (11 percent), and others (50 percent).

The short time span of all this is in itself fascinating. In large part because this project took place in Cambridge and the Greater Boston area, we interviewed several subjects who knew Timothy Leary and began their psychedelic use with him. It is instructive to see how even those earliest users, in the throes of joining a social crusade, albeit with spiritual and political overtones, were searching anxiously for evidence to counter the general public's fears about these drugs, which the users loudly decried.

R: Of course, I had some hesitation about taking it at that time, but I soon became aware of the fact that there was little basis to my fear. Right in this house I had Tim Leary come in and one of the experts down at Harvard Medical School—experts in this field—who was interested to see what the drugs did to chromosomes. He persuaded me to invite Leary here to have his and our chromosomes tested, and out of the four of us who gave our blood for this purpose, on a kind of blind basis, the only one who showed any abnormal number of breakages in the chromosomes was the only one that had never taken any of these drugs. My friends, when I told them this story, they said, Oh, we ought to promote LSD as something that improves your chromosomes, cause Tim's were the best of all.

Unlike other drug use, use of psychedelics at first implied an ideological stance. Beginning users were not simply smoking a joint; they were becoming enlightened. Obviously, this view came at least in part from Leary and his influential outpourings.

I: Before you tried hallucinogens, what did you know about them?

R: Well, all I knew was what I'd read about them, and I took a very dim view of it. Seemed to me silly to think that a drug could touch off a religious experience, and this is what Tim Leary was telling us. He told us about his convicts that he was giving it to, and he said they

were talking like medieval mystics, and this made me a little skeptical. But here I was supposed to be a big expert in the field of psychology of religion, and here were claims about it, and I felt that I shouldn't come to premature conclusions without taking it myself, and that was my chief motivation.

The strong ideological conviction acted against the anxiety about use. It also acted against the "straight" society's absolute disbelief that this drug experience was interesting and, for some people, important.

- R: I'd read in the papers about acid and in magazines and stuff like that, usually LIFE magazine, and how people's chromosomes were being this and that. There was some pretty scary publicity about it. It struck me that people were probably fooling around with their fundamental chemistry, you know, and this particular guy did it, and then told me about it, and it didn't seem to me that he was changed. In fact, he seemed better. It was very important to him. It was probably the most important thing in his life, by a long shot. And since he was that close a friend, I was open to him.

There is little doubt in our minds from the survey of our sample that Grinspoon and Bakalar<sup>13</sup> were right when they noted that users of psychedelic drugs are frustrated by the fact that the public at large fails to take seriously any positive feelings of inner change through the drug experience.

- I: So basically, you enjoyed your first trip.
- R: Oh, yes, yes. Even though it was an ordeal in ways, and I can't imagine anybody wanting to take a trip on LSD without a good reason for it, any more than I can imagine going to the dentist for fun. But it was not only good things for me that were valuable, but it gave me insight into the value of the drug. In thinking about this school situation during the trip, it occurred to me that if the president of the institution could give LSD to all of his faculty, his problems would be over. But, when the trip was over, suddenly I realized that something had happened to my animosity. My hostility had about 90 percent drained away, and I haven't laid awake a minute since then, worrying about that situation. So that was maybe the high point of the trip.

Certainly one of the most important lessons to be learned from the efforts to discourage use of LSD in the 1960s is how the fervent anti-drug propaganda actually worked. The dire warnings of physical damage—which turned out not to be true—the made-up stories of being blinded by staring at the sun, all intended to discourage use by frightening people away from it, had quite a different effect.

- I: Had you read about LSD prior to using it?
- R: Several times, yeah. From all kinds of—I'd read a lot of bullshit, I'd heard about these people blinded by it watching the sun, and heard that was all bullshit—the chromosome thing that turned out to be

pretty much bullshit, and I'd read a lot of Tim Leary who seems to have—I don't really agree with all of his things, but at the time his kind of movement that he was the head of was pretty important to me, and it was sort of more all-encompassing than the resistance movement, which only seemed to be extremely political. I was kind of getting disenchanted with just changing the system. I thought changing consciousness had something to do with it. I was really getting into Leary's philosophy.

They were indeed affected by all of this, but instead of not using, they were forced to idealize their use of psychedelics.

R: I feel I owe a tremendous debt to LSD. Um, I think that it helped to, um, it helped to sensitize me to certain things about myself, once I was ready to be sensitized. It's sort of a chicken-and-egg thing, that is, I suppose that some of what happened to me would have happened to me if I'd been straight, but I really think that there's something about drug use, I think, intelligent drug use, that leads to the necessity to face up to certain parts of oneself, or myself, um, with greater clarity and greater force than might have been true otherwise. Um, it's the whole question of being jived, and the whole question of putting on airs and of pretending to be other than what one is. It's just much, much harder when there are psychedelics involved than when not.

Rather than seeing psychedelic drug use as an interesting experience that some people might like and most would not risk, they became committed and active proselytizers.

R: I was more advanced in drug use than the rest of the group. I was out of the group, like. I used to get a high sensation about it. Like they'd say, "What are you using that shit for? Weirdos. And I'd say, "Fuck off, you don't know what you're missing." So I got a few people to get high, and they did psychedelics with me, mostly mescaline, and they liked it, really liked it.

This was an unanticipated consequence of the powerful, unremitting, anti-psychedelic campaign by federal agencies, medical authorities, and other social groups.

Once this struggle was joined, it was passionate and had other consequences. To justify themselves, users became moralistic.

I: I vaguely remember your mentioning before that acid for you was in some ways deciding to do some thinking work, and as opposed to just getting high and having a good time. Is that fairly common?

R: Yeah, it is for a lot of people I know. I mean, it's hard to get high and have a good time on acid. It really is hard. It's strenuous work.

Words such as sacrament were prevalent in the culture.

R: In the city or with people whose vibes I wasn't sure about, with people who I got bad vibes with. To me LSD is almost a sacred thing; you should take it in a natural setting, somewhere where you're with the earth.

Many actually tried to organize a church. The psychotherapeutic value of the experience was made much of in cataclysmic terms.

R: I totally freaked out on LSD. But to me it was the best thing that ever happened.

I: What do you mean?

R: It seemed like therapy that John Lennon went through with Janov, whatever they call that. It seemed like that process of bringing you back to your childhood, bringing back to your instincts. It took Janov two years to pull that off with his questions and answers. It took me two hours getting high off LSD. My whole existence was wiped out. I didn't know my name. Most of this, what I'm telling you now, is from accounts of what people tell me because I was unconscious of it. I took this LSD when I was inside the city area, and the energy was built up. And it was those hangups I mentioned to you before—my parents and my sexual hangup—and I totally erupted in this guy's room. Just vomiting and throwing things and screaming, and they took me outside and walked me through the snow. I remember I thought I was Jesus Christ expounding to all the people. I really was yelling a bunch of nonsense. I'd no idea what I was yelling, and I came back to my room and I tried to rape this girl. People stopped me, but I saw this girl and I said, "Do you want to ball me?" And I grabbed her. Then when I was coming down, I saw that it was my paranoia with my parents and my frustration over being a virgin that brought it all on. Also, I realized what an ego trip I was on and realized that I was living in the illusion that I was not even aware of. I really thought—the way that I woke up from that acid—I never felt worse in my life.

As these expectations were seriously exaggerated, there were serious disappointments.

R: Um, it was pre-planned in that I had been reading about, um, some other people, psychedelic experiences and how they had gotten into really heavy places like getting back to the moment when they were born, that sort of thing. And I thought, Wow, I'd really like to trip and try to concentrate on getting back to the moment when I was born. Of course, what happened was that the trip brought nothing like that whatsoever, but that was kind of the impetus behind it. And I first realized that by reading something, it was possible to get somewhere of more import on psychedelics than I realized before.

I: And so you were really setting out to do some work on this?

R: Yeah.

The crash from excessive expectations created painful, and, in our view, rather hollow mouthings of a religious and political nature. Much of the celebrated turning to Eastern religions and mysticism came about through these disappointments. Certainly, it was in part the particular action of the drugs themselves. The experience of a genuinely alternate state of consciousness, a sense of awareness that perceptions, both external and internal, can change, cannot help but raise questions about the unvarying nature of the usual state of consciousness and reality that everyone knows so well.<sup>16</sup> It is our impression that the extent of the campaign against the use and the users of these drugs deprived them, for a time, of the opportunity of working through their experiences and integrating them socially and psychologically with their ordinary experiences. Feeling forced out of their average expectable environment<sup>17,18</sup> by their drug experience and by the culture's response, they turned to obscure and sometimes bizarre philosophical or religious ideas.

I: What's the main thing you recall about it? What happened?

R: Uh, well, generally, the first trip was one of the most unusual—it lodged me into maybe a black sinister side. I really got into the black arts.

I: So you were into magic?

R: Well, after that I was convinced of something.

Such responses only increased the alienation between these users and straight society.

There also were important political overtones. Kenniston<sup>19</sup> and others have shown, and our interviews bear this out, that initially the drug-using groups were more or less apolitical. Certainly the political young people who in the early sixties were struggling for civil rights and improved health care in Mississippi and Alabama, were contemptuous of drug users. But in the words of that old saw, "The enemy of my enemy is my friend," drug revolutionaries and political revolutionaries soon saw in concert the reigning cultural outlook as narrow, repressive, and destructive.

R: I think there are many fewer people taking acid. That the relationships are much more carefully worked out about acid—it used to be a whole corridor of students, you know, in a dormitory, just would take it on the spur of the moment. You know, when I first came to teach here, that was around 1969-1970, things like that would happen—there would be campus riots here, tear gas, and the police, and the kids would be tripping their brains out. I know that people wouldn't do that any more. They are too wise to the ways. . . .

It would go too far to say that "Make Love Not War" came solely from lysergic acid and a few other chemicals, but it is true that this drug use had ideological significance for the anti-war movement. It could easily be argued, probably correctly, that the drug-using part of that movement was

the fringers, the alienated, and not the core movers and workers. But the drug use was important. For many users, we felt from the interviews, political activity—often hostile and aggressive—which was quite in contrast to their early drug stances, emerged partly to mask the painful disappointment of earlier excessive expectations from psychedelic drug use.

I: When you were tripping, can you recall any really good moments or experiences that you had? Anything stand out in your mind?

R: Let's see. A lot of times, just like, you know, it's always like—not really. Tripping I always got the attitude, is this all there is?

I: It kind of was never a monumental thing?

R: Yeah. I always expected so much more from it. But it, it made me aware of myself and of other people who were using it. I watched those other people who were using it and saw that the answer wasn't just to sit around and hallucinate in your head and then decry Kent State and Cambodia on the one hand, but then just give up on the other hand. I saw that wasn't the answer. There were bad, horrible things going down. These were bad men, evil men, who were running the country and lying and cheating the people. I had to do something about it. At the same time, I developed an intense dislike for these "peace" people who were always loaded.

I: You said you felt you had to do something about it. Did you?

R: Yeah, yeah. I joined the campus SDS. I occupied buildings. I got my head busted. All those things.

Certainly not all beginning users carried a great deal of ideological baggage with them, and those who first used in the mid seventies carried little or none of it. But we began to collect our sample in 1972, and most of our subjects reflect the extreme concerns of the sixties.

Because the drug had the power to dislocate perceptions, it became clear early in people's experience that a beginning user simply might not know what was happening to him.

R: It was important that the, whoever was the guide—should also have a light dose. And in two sessions I took psilocybin along with this person, and then in another session I was also operating as a kind of guide with two of my associates on the faculty of a theological school.

I: What did that entail, being a guide?

R: Well, I was just there as somebody who had had the experience. I was there to help them if they needed help.

Thus, a practice developed that was quickly translated into a social sanction; seek the advice of an experienced user, and never trip the first time without the presence of an experienced user.

R: In those days, everybody had a babysitter; you wouldn't do acid without a babysitter. Everybody had a babysitter then. That's the old days, man, the great days.

I: What had you heard about it before you tried it?

R: Nothing, really except like what my friend told me and stuff.

I: What was that?

R: But he hadn't done it either. But he just heard it from—he heard it from someone that heard it from someone that it was really fantastic and far fucking out. And you see all those lights and music. It's just fantastic, and you were just really planning for a trip, instead of now. I just do it kind of whenever I want to, but then you planned all the environment, how you'd be. There was that big fear about freaking out.

I: Had your friends used it before?

R: A few of them had, yeah, but not like regularly; it was like a special thing, you didn't want to abuse it.

This guru or guide would soothe anxiety by simply telling the user: "It is O.K. It is what is supposed to happen. Let it happen. Go with the flow." Some neophytes, anxious to use, found guides in odd places.

I: How old were you?

R: Sixteen

I: Who showed you how to use it.

R: I read a book (laughs).

I: Which book?

R: LSD by Hoffman and somebody else.

I: And you really wanted to try it?

R: Uh, huh.

I: Who turned you on to it?

R: A dealer that I met.

I: Where did you try it?

R: By myself, in my bedroom.

I: Did he tell you anything?

R: He said, "Have a good trip."

But even quite young, inexperienced people learn about this sanction without knowing how they learned, and followed it carefully. Users also learned early how suggestible people were in this alternate state of consciousness.

R: They told me to watch where I took it, that there were some places that one shouldn't take acid, like in resistance sanctuaries or anything like that. Grass was cool, but acid's too strong. Watch where you get your acid because, like one experience I had wasn't real acid, and I had a really bad experience later with that. It was a headache. It was a

physically bad experience. They told me to watch where I took it, watch where my head was at when I took it, and when I was taking it, I sort of already knew that.

An important factor limiting use is the difficulty of arranging highly organized lives to accommodate a drug "trip" when it lasts all of one day and has lingering effects felt throughout another.

I: What is the next day like?

R: I like to have a day of recovery, usually I'm just tired. And not physiologically upset, but just, like, really tired out. I just don't want to have a lot of things to deal with. If I trip on Sunday and I have classes on Monday until 3:00, I can't concentrate very well. I'm usually still tripping a little and I just can't attend to things very well. Sometimes the work in school is really important and I have to go to a meeting and really deal with something, and I can't really be—I have to be able to attend to it really well.

For most people, setting aside this much time requires planning, and it is time which trippers either cannot or wish not to devote to any mundane tasks.<sup>20</sup>

R: I'd use marihuana any time I felt comfortable to do so. And alcohol any time I felt comfortable to do so. I don't feel compelled to use either, really. And LSD or some kind of hallucinogen, I would like to use more if I had the space to do it. I don't feel I have the space now. I have to work every day. I have to keep certain things together. That's an expansive kind of drug. Sometimes I like to be able to just sit down and expand.

Another sanction emerged among both beginning and experienced users. "Only use at a good time, in a good place, with good people." Originally this was offered as advice from one friend to another, but soon, our interviews show, users far removed from whoever offered the initial advice accepted it.

R: I was, in some part of me, afraid of acid. I'd heard about bad trips and I never wanted to have one. So I tripped a few times but I would never take a tab unless one of my friends had tried it first.

I: Tried it first?

R: Yes. They were real acid freaks; they were always tripping but they knew that I didn't and I trusted them to give me a tab that they found to be good or mild or whatever.

I: Is there anything else you would do?

R: I would never use it in the city, only in the country or in a park. I hate the city when I'm straight, too much noise, bad air, weird people. So I never wanted to intensify that experience. Also, when someone tripped, everyone else in the house would be informed beforehand, so

they kept their behavior sort of, well, gentle and kind, I guess. No weird vibes, no head trips. And I would use on a weekend or when I didn't have to work so that I could come down and relax the next day because I always felt spaced out and tired the next day. And I would trip on a pretty day with a friend. Never more than one person. Just one good friend I could relate to.

R: I'm very much accustomed to getting into a situation that's as un-threatening as possible. Usually it's, you know, the room's kind of tidied up, I know exactly who's going to be around, everything is pretty much in order. I mean, I'll take a walk outside, but it'll always be with the notion that I can come back to this kind of sanctuary for myself in the house, so it's no threat.

I: How about the other people in the house?

R: If people in the house know that other people are tripping, I think that the effort that's made is to act as normal as possible. I think that's really necessary. I know I feel really condescended to if people behave differently.

Psychedelic drug users also illustrated better than the other two groups of drug users the interplay of sanctions and rituals.

R: O.K. Now, I make sure set and setting are right. I have to do it in a really good environment, dig some of the people and the vibrations there, so I have to do it, maybe, with someone that I really know well, that I really trust, and there are some people like that. I have to do it where I have the freedom to, like, walk around outside, somewhere in the country, or something, and dig on trees or whatever, and I have to have my head in the right place, so that I'm not really angry or upset or anything like that.

These actual rules, sanctions, were supported by individual quirky rituals involving seasons of the year, physical activity, or lack of it, the state of the surroundings, what to do when going up or coming down, or the like.

### *Effects of Psychedelics*

The effects of psychedelics were remarkably consistent, either positively or negatively, far more so than with marihuana, opiates, or alcohol. Two factors were mentioned again and again. The first was the influence on relationships, a kind of powerful bonding among people who tripped together. The second was a sense of personal revelation that might be expressed as physical sensation, as personal insight, or as philosophic or spiritual understanding of self and universe.

R: I asked (my friend) about his first trip, and he said that none of the people really knew each other, they had heard of each other and had met at cocktail parties, but that's all. And at the end of the trip, they knew each other (laughs) extremely well. So I imagine that through

that, through acid, that I will get to know some of these people better. If they'd be willing to try it, I think that's one way that people could get to know me quickly.

- R: What happened was that I got much more interested in talking with people I was with and into walking around outside. Again it was winter and there was snow on the ground, and it was quite pretty. Again, making reflections on visual things, but beginning somewhere inside my head to see that there was a heavier dimension to all this than I had realized before, just, you know, the first revelation.

Many subjects reiterated that psychedelic use had a profound influence on interpersonal relationships. A sense of openness about themselves enabled people who used together to relax certain critical faculties. The shared experience seemed to establish a sort of kinship, as reported earlier by myself<sup>16</sup> and by Grinspoon and Bakalar.<sup>17</sup>

I: What happened during the trip?

- R: We talked. I had never talked so openly about myself before in my life. And it was easy. I didn't feel, you know, like hiding anything about myself, and that what I was was so terrible. Then he told me about himself, and I could understand him and feel close and think everything he thought was bad about himself was really O.K., just like it was with me.

Sometimes the shared experience was not just this personal openness but the kinship of people who had done something daring, dangerous, and illicit.

- R: I was with a pretty stable group of friends. We all got high pretty regularly (laughs). And there weren't any tensions, like this was a group I felt comfortable with and part of. In eleventh grade I started getting into acid pretty heavily, toward the end of the fall and into the winter. By wintertime I was tripping like a couple of times a week. On some levels, none of my friends were very bright. School was essentially a very weird situation for me in terms of—I was like an honor type student, on the one hand, and had nothing to do with the other honor type students who were super-straight. The people I hung around with, some of them were bright but didn't use it; some of them just "hung out."

I: So there was a real disjunction between your school life and your friends? The friends you hung around with outside of school? How did you feel?

- R: I felt good. I like the idea of the contrast that I had. It was a small school, and I was possibly the brightest person in that school, but at the same time, I didn't work at being in school.

This was particularly true of the younger group who tended to talk a great deal to each other about their shared experience, who had done it, when, with whom, was it good acid, etc. This apparently repetitious conversation also served to buttress sanctions and rituals. The secret society aspect led many of our subjects to adopt odd times and odd places for tripping.

R: We weren't supposed to, 'cause it was formal school trip, right? And, you know, about a third of the school tripped, and, you know, it was really, it was incredible, the way people got along.

I: How did the principal and the teachers handle it?

R: Well, they thought it was a really good weekend, right? 'Cause here were all these people who were—they didn't see us all day 'cause they were out walking around and stuff. And then they'd come back after a day of tripping and we were still tripping, you know, sitting around talking at night, sitting around the fire.

I: Did they ever find out?

R: Probably, but nothing's ever been said.

R: Uh, I—every once in a while I'd stop, maybe for a weekend or something, or for a Friday and Saturday, and every Sunday there was a whole bunch of us that got together in church and did acid.

I: Just before church, or in church?

R: No, it was like in the afternoon, you know, when nobody was in the church; we'd just go in and sit down and talk and stuff.

I: And do acid?

R: Yeah.

Once the user had learned to control effects of the drug, there was often a secret pleasure in going into the world to test the impact of their different vision and its effect on their interactions with people.

I: Was the second experience you had similar to or different from the first one?

R: It was similar in that it was taken with the same friends. This one was at night, and at one time we did go into the town and buy something. And I learned about how to come down enough to, like, go and buy something at a store, and stuff like that. I learned, like, how to control myself and not be paranoid.

I: How did you learn that?

R: Uh, it's a group thing. Like, you're gonna—someone tells you that you can do it and you do it. You just come down when you have to. Just pull out, because acid isn't like a body drug. It's head drug. And if you learn to know it, like, you can pull yourself out of the mood.

R: There was often a secret pleasure in going into the world and experiencing it. You know, how it was out there. Let me look at them with my eyes open, for maybe the first time. I wanted them to see me too, to know what I'm like when the hostility is drained away.

The dilemma of what to do with children was often expressed by our older subjects, as in this quote:

I: How much is too much acid in your opinion?

R: In a given dose, you mean?

I: No, in usage.

R: Well, I can only speak for myself. I would say that for me, I come back to my rules about using it. I like to use it with, like, one person or a small group of people that are very carefully picked out, in a careful situation where I'm not going to be confronted with tests that I won't be able to do. Like, I won't use it during the university term when I'm teaching, or when I have to prepare something. And also the kids. The kids, by the way, don't like it. My daughter very specifically says she doesn't want me to be tripping. At least not in her presence. And that's the arrangement. That's an important restraint on me, by the way. She says, "Daddy, I won't want to be around you when you're tripping. You act funny, and I'm afraid that the car is going to crash and you're going to be arrested by the police." She's seen this on TV, as a matter of fact. So I said, "O.K. That's the deal." And since they live with me half the time, and with their mother the other half, they're frequently here. It means I have to arrange it specifically. It's usually Saturday night.

The reports on sexual and sensual interests varied considerably more than with marihuana. Many subjects reported enhanced sensuality after use of psychedelics:

R: Everything looked so good. I could just look at the sea and feel it on my skin and in my bones. Touching it was ecstasy. Sensations were exquisite.

But some reported decreased interest in direct sexual experiences.

R: I was too into myself to want to touch him. He looked beautiful and I wanted to look at him. But not anything as rough as sex. He said the same thing. He really loved me and sometimes he would want me but right now he didn't think he could even get it up.

There were several reports of difficulty in men achieving erections and of women remaining dry and unresponsive physically, despite great waves of sensuality and longing. However, an occasional subject transcended that barrier and reported

R: A merging. I couldn't tell which of us was which. I was in her body and she in mine. It was incredible and when I finally came, it was like no orgasm I ever had before. It was my whole body.

As psychedelic drugs are chemically related to the amphetamines and are appetite suppressants, subjects did not report the delight in eating that characterized our marijuana subject interviews. However, they often reported great pleasure in simply tasting small quantities of a special substance, particularly after a long period of tripping.

I: What else do you remember about the trip?

R: Well, we had been on the beach for hours, lolling around, talking, enjoying ourselves. Once in a while, somebody wondered whether, you know, we should have something to eat or drink, and I couldn't even imagine it. Then somebody, he was very energetic all day, got up and went into the house and brought back boysenberry sherbet. It was Haagen Dasz and I took one mouthful. It was absolutely delicious. I thought it was the best thing I had ever tasted in my life. I could taste every nuance of the flavor and also felt, really felt, the texture as I never had before in my life. I took one more taste but that was all. It was perfect but it was enough.

The type of revelation or insight shifted with drug experience.

R: It is, you're right. But it's over different issues now. When I trip now I think about communicating with a godhead or something like that. There is less of a psychedelic thing to it, and more of a personal thing to it. I don't know if that's going to be a permanent change, I don't really know.

These effects were consistent, and corresponded to the individual's personality structure and current emotional life; somaticizers somaticized; cerebral types cerebrated, and so on.

I: What's the biggest mistake you've made about drugs?

R: Being too overconfident and thinking that, well, in the two or three bad trips that I've had, I guess I consider that that's where my mistakes were. That I felt getting high would improve the quality of whatever was going down. I could have realized it if I had just stopped to think about it; it was a situation that could only be hurt by tripping. The mistakes I've made in terms of drugs are the mistakes I've made in general, in terms of not slowing down to think about what's really going on.

R: It used to be that I would wait for things to happen, for someone to come to me. Which is sort of a paranoid model. From the way I grew up, I waited for things to happen to me. I became aware of that sort of pattern through LSD use which, for some people, takes them months of therapy to figure that kind of thing out. The acid thing just (*snaps*

*fingers*) put me right at that place (of understanding the pattern). So, in a sense, even though I was probably crying for half the trip, it was not so much fear or anxiety as just settling into a lot of it. It was the same kind of crying people do in marathons in therapy. They are crying but it's kind of a relief, almost, to be crying. It's kind of, "I'm comfortable with myself" kind of crying. And I'm back in touch with that pain which is to say a real experience that I had cut myself off from. I think of acid experiences, tripping, and therapy a lot in the same way. It's probably why in the first 6 months of this year I didn't do any acid much. 'Cause my therapy was the same thing, more or less.

I: Did you ever have any adverse or unpleasant experiences with hallucinogens?

R: Yes, many.

I: Yes?

R: Well, I particularly had a single experience, a bad, horrible experience with MDA, which is the kind of thing that just works on the emotional kind of realm. But at that point I was going through a kind of crisis dealing with my parents, and the parents were the internalized parents. That lasted for about 13 hours. It was the most horrible experience I've ever gone through.

I: Did that stop you from using it?

R: No.

This does not mean that personality problems or difficulties breed bad trips *per se*. We found ourselves completely in agreement with Barr, Langs, Holt, Goldberger, and Klein<sup>21</sup> who found that there were typologies of reactions to psychedelic drugs but that severe reactions were not necessarily associated with personality disturbance. Some of their most disturbed subjects handled the experience well; some of those with the best-put-together personality structure had trouble. Indeed, our findings substantiated theirs. The experience was more determined by setting, social sanctions, and rituals than by personality. Our subjects' reports of their longer-term experience are one reason we can say with confidence that no one is likely to continue to use psychedelic drugs heavily for a long time; they often reported increasing rather than decreasing anxiety. This does not mean they planned to stop forever; 61 percent indicated they would like to continue very occasional use. But 94 percent reported they had reduced use from their beginning level.

R: I don't know, maybe I'm wrong, and maybe any acid I would do would give me the same good high as before. But I don't, I'm afraid and to me it's not worth risking it because eventually, if I keep taking more and more drugs, eventually I'm gonna get a bad trip and I'll get bummed out and I don't want that to happen, and that's why I don't do that much.

- I: Do you plan, at any point in the future, either immediate or long range, to trip again?
- R: I'm not planning it, but I suppose, under certain circumstances, if I would—I always said after I tripped the first time that I didn't want to trip again unless, like, I was again with a guy that I really—like, I was going out with someone and I really enjoyed and trusted him, and then I'd want to trip with him.

In fact, even their previous concern about the negative health effects of the drug had become stronger. For many, the experience simply became consistently more negative. For others, what had previously seemed like personal insight leading to a gentler and more accepting view of the world become less impressive:

I: Why did you stop psychedelic use?

- R: I was getting too screwed up. I was getting in a real kind of, like, trip where I was [feeling], you know, kind of, like, superior. And I've noticed that a lot with, you know, people who do a lot of acid. They get into a kind of real trip that they're kinda more better than other people. And I was just doing that too much. I dunno, just kinda know it all and everything, you know. I can't really explain it, just kinda knowing it all and stuff of that nature. I really realized it mostly this summer, 'cause when my friend lived right behind me, there was a house and a bunch of acid freaks lived there, and, you know, I could really see it in them, exactly, I could really see it in them, exactly.

In this case the subject was aware that the "insight" had turned sour. In several other cases, the interviewer felt that the subject's representation of his evolved view of the world, which he regarded as insightful and accepting, was actually condescending, pretentious, and alienated, without awareness of how he might be seen by others.

- R: There's a real difference in the way you look at the world if you've had the experience of tripping.

I: What do you mean by that?

- R: It's, uh, well, you get sort of a more objective sense of what's going on in the world. Things happen, but they don't affect you as much. Things that used to bother you, maybe, you can sometimes see that they're really funny, or well, sort of temporary. Like, this, too, will pass. People who don't trip don't understand that.

I: Why not?

- R: It's like you get a sense of the larger picture of things. People who don't trip are too tied up in themselves to see anything beyond their own petty, little troubles and problems.

I: Were you like that at one time?

R: Yes.

There was another consistent reaction from over half of our subjects on successive follow-up interviews—often the same people whose earlier expressions about their trips had been ecstatic. Most of them had never had a bad trip; they simply began to find the experience isolating in an intellectual sense and increasingly less interesting.

R: There are things that I like to do that some of these acid people don't do, which is writing and thinking about politics, and talking about things, and things like that. I tend to encourage people to be more like that, to do that. I miss the people that can talk about a lot of these things.

R: I want to communicate sufficiently that there is less of a special quality to being high than there used to be. That it is something that feels good, and it keeps me in touch, and I place great value on getting stoned in some circumstances, but I don't have a sort of revelatory kind of feeling about tripping that I used to. Sort of a closer to God kind of feeling, and now things are more mundane, I guess.

Eventually, most subjects seemed to agree with this one's summation of his experience.

R: Finally, I realized it was simply boring, yes, boring, boring. Who could have believed it? It was so good at first, so good. How I wish I could feel like those first times again. That was glorious. Now it's repetitious. It takes such a long time, too. I've already thought those thoughts and seen what the drug has to show me, and it isn't much fun doing it over and seeing it over. It's such a shame, but that's how it is.

I: Is that just *your* reaction?

R: No, my friends feel the same. We talk about it once in a while. How great it is, and sometimes we talk about trying it again. Maybe after a long time. And then it will be more like it was. But the last time I did it, it was just boring.

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## **SOCIAL AND PERSONAL USES OF PSYCHEDELIC DRUGS**

Almost anything discussed in this book might be classified as a use of psychedelic drugs, but the essays below have something more specific in common: they are about personal and social transformation, ways in which psychedelic drug use can change the direction of people's lives. (Psychotherapeutic transformation is discussed elsewhere). The changes can be either subtle or dramatic. Sometimes a single tremendous experience can be a turning point. It can assume the proportions of a religious crisis, or it can be like a voyage to an exotic country or the first sight of a masterwork previously known only by reputation. But more often the effect of even a series of experiences is pervasive rather than explosive. We do not suppose that the psychedelic drug users discussed here are as typical as the ones described by Norman Zinberg. The authors herein have tried to understand the virtues and limitations of the drugs and have taken them with care and preparation, demonstrating that they can be used seriously and responsibly, avoiding practices which are wasteful and occasionally dangerous.

It is clear from these essays that psychedelic drugs do not take all users in the same direction. On the contrary, the long-term changes in life vary with individual set and social setting as much as the immediate drug experience. Some of the essays here are largely about specific uses of psychedelic drugs—for example, Jon Lomberg on art or Andrew Weil on his day in the country. But all of them to some degree and most of them to a great extent are about the influence of psychedelic drugs on the whole life of the user, and often it is hard to separate out the elements of the effect. Sometimes a moment of decision occasioned by use of a psychedelic drug can be easily identified, as in George Morgan's choice to join the peyote church, or some

of the examples discussed by Roger Walsh. In other cases, it is hard to know what was decisive because it is hard to separate the story of the drug use from the life story of the user.

The authors of these essays believe that psychedelic drugs have enabled them or others to attain significant experiences otherwise unavailable to them, and usually they reject the suggestion that because these experiences are chemically induced they are somehow false or second-rate. A theme that emerges constantly is the use of psychedelic drugs to help effect a transition in life. The variety of these transitions reflects the diversity of human experience and the variability of the drug effects. Obviously these drugs rarely become a habit, and there are no psychedelic drug addicts. Use of the drugs may become a kind of commitment undertaken as part of a choice about a way of life; it is so for George Morgan, because of his membership in the Native American Church. But more often the drug experience serves its purpose and is then set aside, except for occasional revisits, as something one passes through to reach another stage.

Probably most of the people who believe that psychedelic drugs have seriously changed their lives—a minority of those who have used them but not a negligible minority—think the effect has been good. This may be no more than retrospective self-justification; it is difficult to evaluate the stories our authors tell and the many similar stories about psychedelic drug use. The experience sometimes makes an overwhelming immediate impression, which may have lingering effects, sometimes known as the afterglow, lasting usually for a day or two but sometimes for months or longer.

For example, in one experiment 72 normal subjects were divided into groups of 24 who received 200 micrograms of LSD, 25 micrograms of LSD, and 20 mg of amphetamine respectively; each drug was administered three times. All subjects were questioned and tested before the experiment and again 2 weeks and 6 months later. Of the experimental (high-dose) LSD group, 58 percent as compared with 0 percent in the low-dose group and 13 percent in the amphetamine group, reported lasting changes in personality, attitudes, and values after 6 months—especially enhanced understanding of self and others, more introspection, a tendency not to take themselves so seriously, more tolerance, less materialism, more detachment, and greater calmness in frustrating situations. Of the high-dose group 17 percent reported a pronounced lasting effect on personality. Questionnaire scores were less impressive, but they did indicate a small but significant relative decline in defensiveness and increase in frustration tolerance in the high-dose group. Of this group 33 percent also reported less anxiety and tension, compared with 9 percent and 13 percent of the other two groups. Tests measuring susceptibility to annoyance and embarrassment did not confirm these subjective impressions, but the high-dose group did show a significant change in galvanic skin response, a laboratory measure of emotional reaction to psychological stress (McGlothlin et al., 1970).

The results of such experiments raise the same questions as autobiographical stories. Does the overwhelming immediate nature of the experience sometimes cause people to attribute too much long-term importance to it? How are changes in what people believe or say they believe about

themselves and their lives related to actual behavior? Is there any self-deception in claims of this sort? And, in any case, how can the effect of a drug experience be distinguished from the effect of the circumstances that led to it, followed it, and surrounded it? If the experience does produce an effect, is it lasting or merely a temporary afterglow, even a kind of convalescence? Similar questions can usually be asked about any experience of a similar kind, say intensive psychotherapy or a religious crisis; but that does not make the questions less important or less difficult to answer.

This issue becomes even more problematic when the use of psychedelic drugs is for psychiatric purposes, and when questions arise about possible ill effects of the drugs and about the nature of the drug culture—when is psychedelic drug use the cause of what follows and when is it a symptom or accompaniment of some other process? In any case, we must acknowledge that individual transitions like the ones described in these essays are still being made, although less spectacularly and publicly than in the late 1960s and early 1970s. If the study by Zinberg describes a typical psychedelic user of the early 1970s, the typical user of the late 1970s is probably a high school or college student who takes a small dose of LSD a few times with some friends out of curiosity, sees some extraordinary colors and images, has some pleasant moments and some moments of anxiety, and feels intimations of something more which he or she never explores. But now as in the past a minority is more deeply affected, and a few have built the habits of a lifetime on psychedelic intuitions. The patterns described by the subjects of Walsh's study are likely to exist as long as psychedelic drugs exist.

When the hippie culture broke up or broke down, a few of the young people who had temporarily assumed its habits and language became addicts of sedatives, stimulants, narcotics, or alcohol. A few turned into political radicals. The great majority abandoned apocalyptic expectations and turned to using psychedelic drugs for pleasure, or, more commonly, not at all, since they are too intense and unpredictable in their effects to be used routinely. But people who had more serious and complex purposes might keep on, and even for those who stopped using the drugs, the normality to which they returned was often not quite the same. The psychedelic voyage, like many adventures, changed the traveler, and there were often subtle differences in the sensibilities and interests of LSD users who turned off and dropped back in.

Many people, after encountering another side of the mind through drug experiences, have moved toward unorthodox forms of religious practice, healing and psychotherapy, and this is perhaps the most important unacknowledged influence of psychedelic drugs. Often they developed an interest in the therapies and religious techniques sometimes described as transcendental or mystical. Most of these methods had existed long before psychedelic drugs became popular—some for thousands of years—but the residue of the psychedelic experience created an enormous new interest in them. Such people never abandoned the idea that in some sense they had achieved expanded awareness. They believed they had understood for the first time what the sages of pre-scientific and anti-scientific traditions were talking about. Psychedelic drugs opened to mass tourism mental territories previously explored only by small parties of particularly intrepid adventurers, mainly religious mystics. Most of the tourists simply returned

with a memory of having seen something important but no idea how to interpret it or incorporate it into their lives. But some decided to make their own attempts at exploration without drugs, and they discovered that religious traditions had the best maps—often the religions of India.

This was undoubtedly the most important kind of change that psychedelic drugs produced. They released new forces into the consciousness of millions of people. These forces might be seen as good, evil, or morally ambiguous; they might be regarded as coming from within, as an upsurge from the unconscious mind, or from beyond, as a revelation from other planes of existence; or some way to reconcile these interpretations might be sought. It was as though a country previously known to us only through occasional travelers' tales in which it was hard to separate reportage from imagination was now being visited not only by tourists but by geographers and anthropologists who could compare their observations, put them into a common language, and arrange them in a theoretical order. The implications for the conduct of life sometimes seemed literally tremendous (marvellous, terrible, capable of making one tremble). Only a few people allowed their lives to be totally changed by the psychedelic message (which was ambiguous anyway, like all the verdicts of oracles), but no one who received it was completely untouched. LSD is no longer held out as a way to transform the world, but many people retain a powerful sense of incompletely explored emotional and intellectual possibilities, of something felt as intensely real and not yet explained or explained away. These essays show how that is possible.

The essays can be fully understood with no special introductions, but a few of them raise particular issues that may be clarified by some further background. Jon Lomberg, a professional artist, tells us about the influence of psychedelic drugs on his career. It is sometimes noticed that the psychedelic drug experiences release latent artistic interests and talents in people who have shown none before; Lomberg is an example. Psychedelic experiences not only called him to art as a vocation but provided inspiration for the forms of his art. He writes well of others' art as well as his own, of literature and music as well as painting. His essay raises the question of how drugs can be said to promote the creation of art—an obscure issue complicated by the inadequacy of all theories about creativity. Freud, wisely avoiding the platitudes in which artistic genius is usually discussed, said that here psychoanalysis lays down its arms. Still, we can at least distinguish several kinds of effects on artistic creativity. A drug might simply supply the will to work by dispelling pain or depression or anxiety. Used therapeutically, a psychedelic drug might help to resolve a neurosis or other psychological problem and therefore release creativity. Two other kinds of drug effect are more specific. First, drug experiences, like all novel experiences, can provide themes and material for the artist's imagination to work on. And it has also been suggested that psychedelic drug experiences can subtly affect the faculty of insight, providing original solutions to artistic and intellectual problems through new combinations of ideas and feelings.

There is no question that altered states of consciousness, including those produced by these drugs, can heighten aesthetic sensitivity and provide a source of material for the creative imagination. Probably the best

historical study of this subject is Alethea Hayter's *Opium and the Romantic Imagination* (Hayter, 1968). Much of what Hayter says about the effect of opium on the minds and art of men like Coleridge, DeQuincey, and Poe, would apply to psychedelic drugs as well. Other writers have described the influence of cannabis and opium on Eastern art and the reproduction of peyote visions in Huichol Indian paintings or ayahuasca imagery in Amazonian decoration. Many marihuana users believe that the drug enhances their appreciation of art and music; for example, Allen Ginsberg has said that marihuana enabled him to see Cezanne's landscapes in a new way. A greater interest in music for some time afterward is a common effect of taking LSD—an effect that has actually appeared in one controlled experiment. People may also come to understand better through psychedelic drugs the visionary and mystical language of poets like Blake, Wordsworth, and Whitman. Blake, above all other poets in English, seems to have been able voluntarily to enter into states of consciousness that others reach only by means of psychedelic drugs, and the shock of recognition has caused many drug users, from Aldous Huxley ("the doors of perception") on, to borrow his words to describe their experience.

So drugs can sometimes enlarge an artist's experience in ways that may be useful to him in his creative work, but can they actually release creative powers? This is obviously a difficult question and one about which there is little reliable evidence. Like all psychedelic drug effects, it depends a great deal on the person and circumstances. Some of the most interesting testimony has come from architects and designers. For example, the August 1966 issue of the journal *Progressive Architecture* contained several articles on the use of psychedelic drugs in solving design problems. Painting under the influence of psychedelic drugs seems to become bolder in line, more vivid in color, and more expansive emotionally. But technique is impaired, and often it is difficult to work at all. The lasting effects of psychedelic experience are more important than anything done under the immediate influence of the drug. In a survey of artists who had used psychedelic drugs, Stanley Krippner found that the majority of them thought that the drugs had affected their work, usually through the imagery of psychedelic visions, but also by enabling them to use color more boldly or attain more emotional depth in their work.

It is easy to see inchoate creative potential in psychedelic states but harder to say how often and under what conditions it can be realized. Certainly a drug cannot do the main work of creation, any more than it can produce magical personality changes. The feeling of insight that is so easy to come by in drug-induced exaltation does not guarantee the checks and balances between intuition and analytical reasoning required for genuine creation. Still, whatever their potential as tools for artists and scientists, psychedelic drugs surely have the same capacity that Hayter ascribes to opium: providing insights into the psychology of creation by supplying a new way to read the forgotten languages of the mind, a highway to the unconscious to put beside Freud's royal road of dreams.

Walter Clark's essay raises other issues. He was introduced to psychedelic drugs in the early 1960s and they have remained an important part of his life ever since. Although he did not come to use the drugs until late middle age, he is sure that exploring their effects has genuinely enriched his

life. What he has to say is especially interesting because age sets him apart from most psychedelic drug users and certainly from most drug enthusiasts of the 1960s. His age, no doubt, also has something to do with the importance he attributes to the help psychedelic drugs afforded him in reconciling him to the idea of his death, as well as renewing his zest for living. It is not uncommon for people of all ages who take psychedelic drugs to report that afterwards they fear dying less. It is as though through a drug experience people are sometimes able to face death and conquer it psychologically.

In a letter to Humphry Osmond, Aldous Huxley described a mescaline experience, during which he came to the conclusion that "I didn't think I should mind dying, for dying must be like this, a passage from the known, constituted by lifelong habits of subject-object-existence, to the unknown cosmic fact." (Huxley, 1968, pp. 139, 141). Naturally, this kind of confrontation with death is most important to those who are actually dying. When Huxley felt himself to be near death, he asked his wife, Laura, to give him 100 micrograms of LSD, the drug he had portrayed in his last novel, *Island*, as the liberating *moksha*-medicine. She later wrote, "Now, is his way of dying to remain for us and only us a relief and a consolation, or should others also benefit from it? Aren't we all nobly born and entitled to nobly dying?" (Huxley, 1968, p. 308). The psychiatrist Sidney Cohen, who gave LSD to several dying persons, quotes one of his patients as saying "Ah yes, I see what you have done. You have stripped away *me*. This is a touch of death, a preparation for the big one, when the *no me* will be permanent." (Cohen, 1965, p. 72).

There is a new concern today about dying in full consciousness of its significance as a part of life. Our interest is shifting away from the impersonal prolongation of physiological life toward the conception of dying as a psychiatric crisis or even, in older language, a religious crisis. It may be said that psychedelic drugs were given to the dying as a way of achieving reconciliation with one's past, one's family, one's limitations as a mortal being. It was an attempt to teach people to let go when it is no longer possible or necessary to cling desperately to the self.

The most important experiment in providing a psychedelic experience for the dying was pursued beginning in 1965 at Spring Grove State Hospital in Maryland and later at the Maryland Psychiatric Research Institute. Walter N. Pahnke, the director of the cancer project from 1967 until his accidental death in 1971, was a doctor of divinity as well as a psychiatrist, and he first reported on his work, not in a psychiatric journal, but in the *Harvard Theological Review* (Pahnke, 1969). In a series of experiments, first under Pahnke's direction and then under the direction of others, dying cancer patients received LSD or other psychedelic drugs after appropriate therapeutic preparation. According to tests and clinical observations, the drug experience seemed to reduce depression, tension, pain, and fear of death dramatically in one-third of the patients and moderately in another one-third. (See Richards et al., 1972; Grof et al., 1973; Richards et al., 1977).

Unfortunately, since there were no control groups in these studies, there is no sure way to separate the effects of the drug from those of the other therapeutic arrangements that were part of the treatment. Stanislav

Grof, who is represented in this collection, was one of the directors of the Maryland Psychiatric Research Institute project. In his book *The Human Encounter With Death*, written with Joan Halifax, he summarizes this and much other research on dying and recounts several long case histories of psychedelic drug treatment for the dying. Grof and Halifax distinguish the emotional afterglow of the drug experience, which often fades, from religious, philosophical, and psychological insights which remain and make death easier to bear. Some of the patients also obtained relief from severe physical pain, but the effect was not consistent or predictable (Grof & Halifax, 1977).

Clark also remarks that drug experiences taught him as much about religion as his academic studies. The two kinds of learning seem for some people to be complementary. Without the use of some religious concepts, the perceptions and feelings produced by psychedelic drugs give no guidance (are blind, as Kant would have said). Without some experience at least analogous to those produced by the drugs, religious concepts are empty. The drug experiences naturally make people turn to the writings of religious philosophers to interpret them. Many have turned to Eastern religion, and we know at least one person who decided to go to divinity school because of what he believed to be his insights during an LSD trip. The relationship between psychedelic drug use and other forms of religious and metaphysical search will be discussed in another section of this book. The nature, quality, and authenticity of drug-induced religious experience is a controversial question, but it is highly significant that a lifelong student of religious psychology like Walter Clark has found his studies and his drug experience mutually illuminating.

Another point made in his essay is the possibility of gaining sympathy for an alien culture, in this case the peyote-eating Indians of the American West, by taking part in its drug rituals. To take peyote with its profound psychological effects in the setting of the Native American Church service is obviously a particularly intimate form of participation. Apparently, this experience prepared Clark for his association with Salvador Roquet, the Mexican psychiatrist who has used techniques borrowed from Indian shamans as well as psychoanalytical methods in his work. The same cross-fertilization of cultures is seen in a different form in the hippie movement of the sixties and early seventies—yet another consequence of the introduction of psychedelic drugs to the West.

This comes out even more strongly in George Morgan's essay. He speaks both about the religious use of a psychedelic drug and about the changes it can produce through the intimacy of the connection it allows with an alien culture. The Native American Church, of which he is a member, is heir to an ancient tradition of religious peyote use, but modern peyotism is a reaction, intertribal and pan-Indian in form, to white domination and cultural disintegration; it is not directly modeled on older tribal customs or closely related to Mexican ceremonials centered on a shaman. The Drug Abuse Control Amendments of 1966, in outlawing psychedelic drugs at the federal level, made an explicit exception for Indian peyote use, and today only Native American Church members among all the residents of the United States are legally permitted to possess and distribute the substance without the supervision of a physician in a federally

approved research program. Although the degree of adherence to the principles of peyotism and attendance at its services vary as much as for any other religion, possibly most adult Indians in the western United States and Canada have participated in at least one peyote ceremony.

Some Plains Indians use peyote in small doses for minor illnesses almost as we use aspirin (cf. Schultes, 1938) and many conversions to peyotism are produced by a cure of some (presumably psychosomatic) physical illness. But the more spectacular claims for peyote are spiritual; like many claims made for LSD, they involve changed hearts and reformed lives. It is often maintained, for example, that peyote can cure alcoholism (Pascarosa & Futterman, 1976), although this is just as often denied, even by defenders of the religion (LaBarre, 1964, p. 21). As with similar claims made for LSD, the evidence is unclear. Obviously peyote is no panacea; otherwise alcoholism would not be the major health problem of American Indians. Nevertheless, the Indians themselves and outside researchers believe that those who participate in the peyote ritual are more likely to be abstinent. For example, one writer estimates that 45 percent of the peyotists and 25 percent of the non-peyotists among the Menomini of Wisconsin are abstainers (McClothlin, 1967). Another investigator studying Indians in Saskatchewan found that by his standards almost all members of the tribe were alcoholics; the only exceptions were 20 communicants of the Native American Church (Roy, 1973; see also Pascarosa & Futterman, 1976).<sup>1</sup>

It would be helpful to have an epidemiological study comparing the rate of alcoholism among Indians in general with that of Native American Church members or those who attend its ceremonies faithfully. Such a retrospective study could not establish the usefulness of peyote unequivocally, since it is certainly not the drug alone that does the work. The confessional rites and preachings of the church play the same role as those of a temperance society or Alcoholics Anonymous, and the discipline that keeps a person attending peyote meetings despite the physical and emotional hardships may be the same discipline that keeps him from drinking. But that can hardly be all. Maybe the best way of putting it is that peyote sustains the ritual and religious principles of the community of believers, and these sometimes confirm and support an individual commitment to give up alcohol. In any case, even one federal alcoholism clinic for Indians has recognized that peyote may have value; the United States Public Health Hospital in Clinton, Oklahoma, has reported some success in a program using peyote in group sessions that resemble Alcoholics Anonymous meetings (Albaugh & Anderson, 1974).

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## LIFE BEGINS AT SIXTY

### Walter Houston Clark

What is that which gleams through me and smites my heart without wounding it? I am both a-shudder and a-glow.

—Saint Augustine

It was during my sixtieth year that I had my first personal encounter with a psychedelic drug. The experiment was under the direction of Dr. Timothy Leary, then at Harvard. He had organized a weekly seminar for religious scholars which I joined while on sabbatical leave from my post as Dean and Professor of Psychology at the Hartford School of Religious Education at the Hartford Seminary Foundation. So as to afford to take the full year off I had taken a part-time position as a Visiting Professor at Andover Newton Theological School.

Up to that time my thinking and behavior had pretty well conformed to the pattern to be expected of the typical WASP scholar devoted to the Western scientific tradition. I was skilled at warping the message of Biblical and literary tradition to fit that mold. I was the successful co-founder of the Society for the Scientific Study of Religion and had written my second book, *The Psychology of Religion*, widely used in courses on religion and influential in other respects. There was no miracle in the Bible that I could not thoroughly explain away according to convictions stemming from Isaac Newton, the Enlightenment, and form criticism. With the kind of conviction usually associated with ignorance and the lack of any first hand experience, I had cheerfully dismissed the contention of Aldous Huxley (1954) that religious experience could be triggered by mescaline as "pseudo-ecstasy" and "an escape from the real problems of life" (1958, p. 284).

I was looking forward to winding up my academic duties in a few years to enjoy my declining years in the quiet earned by one who had made few waves for his colleagues to encounter and, like the veterans described in *Henry V*, to "remember with advantages" the academic feats I had performed in my younger years. As I approached a colleague's home that quiet and sunny winter afternoon, I had no presentiment that I was about to cross a watershed dividing my life into two distinct parts of which the second has been more rewarding.

This was accomplished as a part of the normal process of living, without any wrenching disconnection from my previous life. But it also involved certain dramatic breaks with my past. Like Sinbad the Sailor on his enchanted voyage or Gulliver in the land of the giants, I moved into an undiscovered country of which my imagination had barely dreamed. There is not space to tell the whole story. But I will discuss a few of my psychedelic experiences and the effects that they had both on my outward circumstances and on that inner world which reaches so much deeper.

My first experience was triggered by 125 micrograms of lysergic acid diethylamide-25 supplied by Sandoz Pharmaceuticals, the Swiss firm whose biochemist Albert Hofmann had made possible the modern synthesis of the drug. The ancient Greeks had found it growing as a fungus on their grains 35 centuries ago. A microgram is one millionth of a gram, and the amount I took could easily have been hidden under one's fingernail.

My first awareness of the effect of the drug was a twitching in my thighs. Shortly afterward one of my "traveling companions," a young woman, developed the idea that, like her father, she was dying of cancer of the throat. To my perception she aged forty years in a few moments! I knew how she would look as an old woman. Later I seemed to be lying on a beach of yellow sand, alone yet paradoxically with all my companions around me. Waves strangely mingled with mist from the sea were washing over the beach, and spontaneously there rose to my mind the words "Alone on the shores of Eternity!" Still later, another companion called for help, for he thought he had been trapped inside a well; later he realized that was symbolic of his life condition. His wife and I cradled him in our arms. The experience was as poignant as if I had come upon him badly hurt in the midst of a busy thoroughfare. To comfort him I repeated the words of a favorite hymn, Wesley's paraphrase of the 91st Psalm:

See the Lord, thy Keeper stand  
 Omnipotently near;  
 Lo, He holds thee by the hand  
 And banishes thy fear,  
 Shadows with His wings thy head,  
 Guards from all impending harms;  
 Round thee and beneath are spread  
 The Everlasting Arms.

He told me after that he had been in a panic but that my words had greatly soothed and comforted him.

It happened that at this time I had become involved in a sharp and bitter organizational controversy at Hartford Seminary Foundation unworthy either of myself or my opponents at the Foundation. I had been overruled and one of my associates took advantage of my sabbatical absence gratuitously to downgrade an associate of mine in the School of Religious Education. Although I realized that I was wasting my energy, I fantasized a variety of immature forms of revenge. My good sense seemed unable to get the rebuff off my mind. I had consulted a psychiatric counselor for this and other problems. I do not remember that my partic-

ular administrative adversary once came into my mind during the session, but I do remember reflecting that if the president of the Foundation could only give LSD to his faculty his troubles with them would be over. The next day, after I had completely recovered from the drug effects, I suddenly realized that through some subtle catharsis almost completely hidden from my conscious mind, and even though my judgment of the injustice and inappropriateness of the administrative decision had not changed, my animosity had almost completely vanished. After describing the experience to my psychiatrist, who did not seem impressed, I dismissed him. This particular problem has never bothered me since!

These drugs have been cunning catalysts to my growth in other ways; they have taught me at least as much about the psychology of religion as all of my reading, research, and study, though not necessarily more—just as though an expert on a foreign country who had achieved his reputation through library work was able to go to that country and meet its people.

None of my 15 or more ingestions of the psychedelics have been without religious aspects. One of the most rewarding was my participation in an American Indian Peyote ceremony at a Potawatamie reservation on the plains of Kansas. These gracious and hospitable Indians were members of the Native American Church. They called me and my four companions their "white brothers and sisters" and invited us to pray with them after a sumptuous meal before leading us into the tepee where the ceremony was to take place after dark. The ceremony was carried out with great care and reverence. I found Peyote very bitter, but after I had choked down enough I became aware of its power. The chanting of the Indians, the drumming on the water drum, the directions of the Road Chief, the brightness of the fire lighting up the figures and faces of the Indians ranged around the perimeter of the tent, all suddenly merged into a unity and oneness that supplied me with my first and only experience of the mystical consciousness about which I had been lecturing and writing for years.

After the sun rose over the prairie we were given a simple ritual breakfast and filed clockwise around the altar and past our hosts. Suddenly I realized that, in a sense I would not have understood when we filed in, these friends had become my Indian brothers and sisters. I have since become much more sympathetic to the problems and complaints of the Indians, and I have come to appreciate what they can teach us—a resource of which white Americans are only slightly aware.

Each one of my experiences with psychedelics has been different, and all been significant in different ways and to differing degrees. I have great respect for what they reveal of the complexity and wisdom of the human mind at its best, and I have learned that most creative results are achieved when the subjects relax with a minimum of input from the environment. An inner wisdom usually can be depended on to guide the psyche into the paths that it needs to follow. This does not mean that an experienced guide is not necessary. But there will always be an inner agenda largely followed by what may be termed the wisdom of the psyche, "the wisdom of the body," or the wisdom of the mind. The following experiences illustrate this.

Dr. Salvador Roquet, the gifted psychiatrist of Mexico City, had heard of my interest in rehabilitating criminals with the assistance of psychedelic drugs. Since he had conceived a similar idea, in 1974 he invited me

to Mexico to observe his work at the *Instituto de Psicosisintesis del Asociacion Albert Schweitzer*, where neurotic patients were treated at an outpatient clinic with psychedelic drugs. As I have told the Mexican government, if he were given the freedom to treat the patients as he would like, as formerly, I believe that Mexico City would become the psychotherapeutic capital of the world. Dr. Roquet's treatment combines the insights of psychoanalysis with the wisdom he had absorbed from the Mexican Indian shamans (Clark, 1977; Roquet et al., 1975). They have taught him, along with other things, that in groups and with the help of psychedelics, the average person can receive, in months or even weeks, insights equivalent to those achieved in psychoanalysis in years.

After he had discussed his theories in a series of seminars Dr. Roquet persuaded me that the best way to observe his methods was to take his treatment. I reported for the first session, as directed, at about 10 o'clock in the evening. I was given both physical and psychological tests by the physicians involved. The altitude had induced a heart irregularity, and I was gently told that my heart was strong enough for the drug they were planning to give me but that I should not abuse it.

I was then led to another room where my fellow voyagers—about 25 of them, all speaking Spanish, which I do not understand—were gathering before the session. At about 12 o'clock we were led into a large room where each of us was assigned to a pallet on which to recline. For the next 20 hours we were not allowed to leave the room except to go to the bathroom opening off one end of the room behind a row consisting of Dr. Roquet and seven or eight assistants, who carefully watched us during the procedures. The walls were covered with bizarre and sometimes frightening pictures of Freud and the murdered President Allende of Chile.

After we were settled, during pleasant music, there were brief exercises or "bio-energetics." This was followed by a darkening of the room and images from five or six projectors projected against the walls and pictures. They included every aspect of life from pictures of nature and handsome men and women, sometimes nude, to every imaginable ugliness, with an emphasis on violence and death. As this was going on each patient was called forward, weighed, and given a drug. Later I found that mine was a low to moderate dose of LSD. Finally, a film with death as its central subject was projected as the tempo of the still pictures was stepped up, and the music, at first soft and harmonious classical works, was raised in volume until it became a cacophony accompanied by blinking strobe lights to magnify the confusion and sensory overload.

At that time a paranoia that I had never before experienced grew upon me. The expressions on the faces of Dr. Roquet and his assistants became demonic. I conceived the idea that they had been specially appointed by the Inquisition to drive me out of my mind—incidentally their precise purpose, for the aim of the therapy was to fragment the defenses of the patients through a temporary psychosis. I strode to confront the therapeutic team and denounced them in no uncertain language—hardly my usual style. Another patient pounded his fists on the table with force so violent that he was in danger of destroying the expensive electronic equipment set on it. The other patients expressed their agitation by similar demonstrations, some weeping, others gesticulating, some embracing others, one or two

vomiting; a few were quiet throughout. A visitor spirited in from the outside world would have concluded that it was the disturbed ward of a mental hospital.

After an hour or more the music was lowered and became more soothing. Lights were dimmed and we were allowed to rest, to sleep if we could, for 2 or 3 hours. Then the shutters were taken from the windows and the sunlight poured in. We were encouraged to exercise in any way we wished, perhaps by dancing. By this time I was beginning to be ashamed of my previous behavior. My urge to apologize to the doctor and my fellow patients expressed itself, once again uncharacteristically, in an improvised dance. I began vaguely to feel that I had learned something, yet the whole affair seemed a kind of descent into Hell. The therapeutic team had not yet completely lost its demonic quality when a patient next to me vomited over himself and the floor. As I was considering what I should do to help, the doctor's wife and a clinical psychologist armed themselves with vomit bags and towels and proceeded to the scene. To my amazement, tears were running down their faces. Instantly I concluded that those I had mistaken for demons were really angels. All the time I had been in Heaven rather than in Hell.

For another 4 or 5 hours, before the effects of the various psychedelic drugs administered had completely worn off, we launched into what the doctor called "psycho-drama" or "psycho-synthesis." This was run by Dr. Roquet, who had full dockets of the autobiographies of his patients and skillfully questioned them. In this way he sharpened their recall of what they had been through in such a way as to link it with their central problems as developed through psychiatric confrontation both apart from and including the immediately preceding session. One young woman was given a passage from *Madame Bovary* to read aloud, and her identification with Emma Bovary was poignant and dramatic. Another was asked to read from St. John of the Cross. For another Dr. Roquet read from Tolstoy's *The Death of Ivan Illyich*. In each case the music, now softer, was adjusted to the needs of the patient, sometimes a popular song, sometimes an ancient ballad, sometimes the gay and poignant flutes from the Andes, but always appropriate.

Finally, at about 6 or 7 o'clock, relatives of the patients began to arrive to take them home. Each patient received a rose before departure. I saw no one, no matter how disturbed during the session, who was not ready to go home at this point. At my request, during the session my wife had been summoned, and (as a guest of the Institute) I was given the special privilege of having her with me for a short while. I felt completely myself at the end. She was more disturbed than I!

About 2 weeks after this first session I participated in another. Dr. Roquet used mushrooms sent especially for me by Maria Sabina of Huautla, the well-known *curandera*. This time there were only 10 patients and the therapeutic team was smaller. However, the program was much like the first.

Once again I confronted my own death. But this time death was not threatening and the experience was not a descent into Hell. Death—my own death—appeared to be what I can only describe as a festival.

Emotionally I experienced death and birth as similar events, two ends of the same continuum and therefore to be similarly interpreted. I did not appreciate the full effects of this session until afterward.

Gradually I became aware that life for me had acquired an added zest. In two ways this was particularly noticeable. The first may seem rather trivial, but it is objectively verifiable. For the previous 10 years I had become aware of the fact that my appetite was diminishing in keenness, and I had lost about 10 pounds in weight—from the 170s to the low 160s. Following the session my appetite picked up and in less than 6 months I had regained my previous weight. My appetite still remains keen, and I sometimes even find it wise to diet.

The second specific change I notice is my new interest in music. There is no doubt that the amount of time I spend listening to music has at least tripled. I have gotten into the habit of listening to music while I am at work and at times, through the music, I am aware of an occasional surge of inspiration and insight that has become a dynamic element in whatever creativity I may possess. Before, music while I was writing would have been little more than a distraction.

Speculating somewhat psychoanalytically, I suppose that a deep-seated fear of death had been kept from my consciousness by the expenditure of defensive energy. Through confrontation with this fear, the energy that had been wasted in keeping it from consciousness was made available for more creative purposes. If interest in life and the zest for living is a factor in prolonging life, as it is said to be, then I feel sure that this encounter with the psychedelics has extended my life expectation.

I would like to finish these descriptions of some of my more than a dozen psychedelic experiences with a summary of what they have taught me. When I say that "my life began at sixty," I do not mean that there was an abrupt disjunction between years preceding and following my sixtieth year; only that there was a noticeable change in my life's direction at this point and that, taken as a whole, the years since have been more interesting and rewarding than before. The whole story, of course, cannot be contained within a brief autobiographical essay, and in any case its roots have penetrated deeply into my unconscious where I cannot follow them. But the evidence I cannot deny is there. I have changed my attitudes, ideas, and sometimes my values quite radically since my watershed ingestion of that first dose of LSD.

First, I have acquired a research interest closely related to my previous interest in the psychology of religion. This holds and fascinates me even though my attempts to carry on effective research in the field have been largely blocked by legal restraints, and I live with a sense of frustration. But this very frustration stimulates me to do what research and writing I can and preserves for my spirit an active striving that keeps my mind alive. It has led me to write my third book, *Chemical Ecstasy*.

Previously I had belittled the idea that religious experience could be stimulated by a drug. My first encounter with a psychedelic drug dispelled that delusion, and better acquaintance with the ideas of William James (1902) and W. T. Stace (1960) gave support to my newly acquired views. It was hard for me to accept the idea that anything as exalted as religion might owe something positive to drugs. But I have been impressed by the dignity

and power of the Indians' use of peyote and psilocybe mushrooms. Recently it has been demonstrated that the ancient Greeks used LSD in its natural form in the celebrated secret potion that culminated the highly respected Eleusian Mysteries (Wasson et al., 1978). The writings of Plato, Aristotle, and some of the Greek playwrights show the effects of their initiations into the Mysteries. Such knowledge forced me to rearrange my prejudices and even to relinquish some of them. It began to dawn on me that the origins of some philosophical and religious ideas might be better understood by a scholar who had ingested and experienced the psychedelics. My basic view of the Bible changed when, under psilocybin, I witnessed the aura of a rose and realized that the burning bush of Moses was something very similar. Previously I had thought of the story as merely symbolic.

I have already mentioned the change in my attitude toward death produced by my two sessions with Roquet in Mexico. Death now seems much more natural and normal, and the shadowy fear of death that had plagued me was released along with the energy squandered in hiding it from myself. That energy is spent in taking joy in living and particularly in listening to music.

There also came a new evaluation of my life and my achievements. Before this I had considered my professorships, my deanship, my Ph.D., and the books I had written as my life's crowning achievements. Now I began to see that my refusal to embark on a topic that did not interest me just in order to secure a Ph.D., my difficult pursuit of a college position in which I could teach the psychology of religion regardless of the adverse effects on my career, my refusal to heed the request of the Trustees of Andover Newton Theological School that I give up my interest in the psychedelic drugs on pain of being dismissed from my professorship, all had strengthened my self-respect and become more important parts of my life. The threat from the trustees threw light on or developed other convictions. The Governing Board at Harvard had summarily dismissed Timothy Leary without a hearing even though his contracts had several more months to run. There had been no effective protest by the Harvard faculty against this gross abuse of the principles of academic freedom. Previously I had put professors on a kind of pedestal, but my views were now gradually changing. I realized that the average university professor, like most human beings, is both sheep-minded and chicken-hearted. I am glad to be able to report that this was not the case with my colleagues at Andover Newton. As a result, the trustees never carried out their threat.

At the same time my sense of self-respect carried over into other areas. After 50 years of living with my wife, my love for her has deepened, despite the fact that we are so different in temperament and thinking. My love and respect for my sons and their families has also deepened, though I have never looked on myself as a model parent. My interests have given me the opportunity to help and stand by certain friends in legal crises brought about by their legitimate and responsible interest in the psychedelics. The things that I value in life have become noticeably different; these changes afford me satisfaction.

Particularly since my retirement, I feel freer to state my views on unpopular subjects. When I support certain religious uses of the psychedelics as active sacraments I feel motivated by the need to express convic-

tions that come from experience. I know from first-hand experience that the LSD-type drugs in the right hands are superb psychiatric tools and I feel free to say so. I do not need to follow the crowd. Those who disagree with me will say that I am getting crotchety, but I feel justified and freer than before.

A colleague has told me of his out-of-body observation of himself under LSD. This has been one of the pieces of evidence that, along with others, has changed my attitude toward the paranormal. It is not that I feel no need for a healthy skepticism when I approach such problems, but the psychedelics have helped me to break away from my adamant disbelief with respect to psychic phenomena, while my attitude toward the experience of a future life has become much more richly accepting. The borders of the universe I live in seem to have expanded.

Finally, I seem to myself to have passed through a kind of experience of testing. In the first book of *The Laws*, Plato speaks of a hypothetical drug—probably the psychedelic fungus he encountered in his initiation at Eleusis but was pledged not to disclose—which would fill a person with fear and so act as a kind of test for courage. One never knows exactly what will happen during a session, and one must face criticisms and harassment afterward. But probably the greatest risk to the user of these largely benign substances is the awesome prospect of facing oneself. That, more than anything else, explains the Draconian interdiction of even the responsible uses of psychedelic drugs. William Wordsworth has written:

Not chaos, not  
The darkest pit of lowest Erebus  
Nor aught of blinder vacancy, scooped out  
By help of dreams—can breed such fear and awe  
As fall upon us often when we look  
Into our minds, into the Mind of Man.

## GREAT DAY IN THE MORNING

Saralyn Esh

I don't know whether psychedelic drugs greatly affected my life or not. For one thing, one never knows how one would have turned out otherwise. For another, they greatly affected the sixties as a whole, which were formative years for me, so they may have influenced me more through the spirit of the times than directly. And there's a built-in tendency to exaggerate when addressing such a question; one isn't going to discuss how drugs affected one's life and say that they didn't. So, surprise: I think they did—not so much my personality, as what I *know*. I learned that there are different sorts of things to know and that I'd been specializing in some and was ignorant of others. In this way, psychedelic drugs made me humble, made me realize that anything is possible, that "there are more things in heaven and earth than are dreamt of" in anyone's philosophy.

I haven't tripped in about 9 years, but what I remember best is the Super Day feeling, like a treat that a child has been looking forward to, like being taken to the circus. (I've never been to the circus, so that image has always signified a special outing to me). A day on acid was pink and blue and lavender and violet and mauve. And tinged. It was a day of drenching happiness. It was stereotypical: a great-day-in-the-morning kind of day, a day of good cheer, one of extraordinary cosmic blessedness.

When I say that psychedelic drugs affected what I know, I do not mean that knowledge was revealed, but rather that I learned a different way to be. I learned what awe, delight, blessedness, and serenity were, and recognized them as more than platitudes. I never experienced my birth, had a flash or a flashback, but I did feel like a god: benevolent, compassionate. I felt as if the good news was being whispered to me. I was in on a big secret. I was beginning to see what it was all about.

Obviously I am grateful to have been able to learn that I am capable of such experiences. They don't otherwise occur with that kind of intensity—in my life, anyway. My normal way of knowing about such states is to read about them. Of course the intensity may be bogus, unfounded, inappropriate to what is engendering it, "merely" chemically induced. It may be a lapse in judgment, an increase in suggestibility, a delusion of grandeur. I can see the validity of such objections, but my assessment of the value of the experience is unaffected by them. Psychedelic drugs changed my feelings about being alive.

Before 1965, I was in many ways a typical New Yorker: cynical, knowing, not likely to get too excited about anything. I was more interested in cities than in the countryside, and in people rather than places. I was not much concerned with eternity; in fact, whether or not I "made it" was the central drama in life, or at least my central interest. I don't mean that I was a calculating, consumed egotist, but I would have considered myself to be a pragmatist, and my interest in most things—except perhaps people—was based on their relationships within larger hierarchies, e.g., academic, ethical, or social. Acid taught me a different mode of experience. It taught me that one could be interested in something by seeing more and more in *it*. That one's interest draws one in. That you see eternity in a grain of sand, not vice versa. I learned how to see: how to give something my attention, to be drawn into it, to concentrate, to see worlds within worlds. Through psychedelic drugs, then, a few extra layers of perspective were added to my view of things.

Certain philosophical ideas are also more accessible to me now. Although I had a conventional religious education—throughout high school, actually—nothing before LSD ever brought home to me the idea that things of the spirit might be real, or palpable. My normal vision isn't attuned to spiritual manifestations; it's rather a perfunctory, scanning kind of attention, searching out labels and perfect "shots," summaries and general impressions. It isn't even analytical, really, but rather synthesizing, and it runs on automatic pilot most of the time. Through LSD I have known other ways.

In short, acid allowed me to experience my soul. Ego, ambition, defenses, critical faculties are sloughed off or suppressed, and one's tiny, thrilled, yea, overwhelmed little essence is allowed to take center stage and give an account of itself, or at least be experienced. To an otherwise prosaic person, it was the chance of a lifetime.

My soul, I learned, is most "into" joy and beauty, i.e., experiences of joy and beauty most occupied me on acid. (I suspect that other souls share these predilections). Joy and beauty do not dominate my awareness in general—and never with a comparable intensity—so I treasure these experiences on the grounds of their rarity alone. They were also profoundly educational. I think I understand the human race a little better; for example, I see more clearly why people bother to create art, even in the face of personal hardship, and why it is a driving force, not merely a need for entertainment or decoration.

Tripping also showed me that my mind is capable of producing infinite or at least seemingly endless streams of ideas and, further, that such activity is play—pleasurable. I can't still draw on such capabilities, but it's important to me to know what is meant by the idea that we use only a fraction of our potential. I particularly like hallucinatory, visual creativity because my own bent is so pragmatic and verbal. To produce a constantly changing Ferris wheel of possibilities is exhilarating. So is finding that one's head is full of stories and legends that one is making up on the spot. Such experiences have expanded my understanding of who I am and of how generously we have all been endowed.

In addition to widening my spiritual and aesthetic horizons, psychedelic drugs affected my feelings about myself. From them, I got a rock-bottom feeling of myself as okay, winging along, a person to whom good

things happen, a good person. Previously, I had forgotten the childish joy of simply being alive. Tripping makes you feel the way an infant must feel, in the absence of discomfort, simply *being*: energetic, open, interested. Tripping lent to my life the grace of fairy tales, where everything is right and appropriate and satisfying. Psychedelic drugs engender storybook experiences: one is tremendously cozy, delighted, enchanted, lucky. One sees that one is a character in a lovely setting. This awareness has stayed with me, and I still feel surges of delight and gratitude when I step back from the quotidian and realize "*I am leading this sweet little life.*"

Psychedelic drugs also contributed to my moral and ethical development by widening my "better judgment." Of course, if I were confronted with a mass murderer, say, I'm sure my feelings would be as unenlightened as anybody else's, but I have to admit that I know better, that, in some sense, we are all God. It feels ironic to credit acid with contributing to one's intellectual heritage. But I'm often aware of my judgment's stepping back and knowing better, either as a result of my own psychedelic experiences or of the bits of two or three books I have haphazardly looked at as a direct consequence of tripping (e.g., Alan Watts). This feeling of knowing better comes from seeing situations disinterestedly. Disinterested perception does take effort, and I don't often make the effort or even remember that there's an effort to be made. Nevertheless, the fact that I have been disembodied, dispassionate, and un-self-interested feels seminal to me; it is an allegiance with which I can always keep faith.

Now that the reader has been apprised of the fact that acid has made me a terrific person, it remains only to illustrate how it has also helped me to have a terrific lifestyle. That may be a harder case to make out, because there may not be unanimous agreement that my lifestyle is so terrific; a small income and irregular work prospects may not be everyone's idea of a good deal for a thirty-five-year-old postgraduate. But I am satisfied; if free-lance copy editing hadn't existed, I would have had to invent it.

The connection between free-lancing and psychedelics, I believe, lies in the importance of freedom. Tripping makes one see oneself as a character in a story and at the same time makes one realize that one is responsible for the story—that the life one has created represents one's choices, one's tastes, one's priorities. And it gives one a powerful taste for one's own life, an exhilaration, a gratitude, and an enthusiasm for the story in progress. The upshot, in my case, was that maintaining a sense of freedom became one of my highest priorities. Because I love my fairy-tale existence, I can't sell it out (or even lend it out for long) without getting worried—no bargain I could strike could repay me for my self-determination. Freedom has a higher priority for me than money or status, and I've never wanted to get locked into a situation that might deprive me of it. I occasionally have fleeting, hollow, theoretical regrets, but no real, rankling dissatisfactions. I don't mean that I'm irresponsible—absolutely not—I prefer free-lancing to a 9-to-5 job because it leaves my most precious commodity, my life, to schedule as I please.

On acid, I frequently felt blessed, ensconced in the "rightness" of everything; now I often feel that the fairy tale has happened: How clever to be able to support two cozy little households—an apartment and a place in the country—doing something I love (not just earning someone profits), plying my trade (reading books!) when the spirit moves me.

Psychedelics dramatically affected my feelings about the country. I used to be totally urban-oriented. I scorned people from upstate at my upstate state college. I thought that people alone were where-it's-at, and that they were best provided by the pooled resources of cities. Now, I feel lucky to be able to accept the penury and irregular income of free-lancing in return for the ability to be in the country half the year. Of course, I *am* city-bred and I don't have the rural skills, but simply being in a pastoral valley feels profoundly satisfying; and I know my enthusiasm is related to having heard, seen, and sensed it all once in a psychedelic way, i.e., as if the very stones spoke. Obviously, not everyone needs this kind of introduction to the great outdoors, but I did, and my memories of tripping recur most frequently and vividly there.

When I went West at the twilight of the Haight-Ashbury days, I used to go to rock concerts, or be-ins with bands playing. Those were in wonderful places, like Golden Gate Park, and taking acid on such days did even more for my relationship with nature than for my connoisseurship of rock. Acid is very scene-oriented, or theatrical: no matter where one is or what one is observing, the situation feels fraught with meaning, portentous. Everything embodies something, the world wears a constantly changing expression on its face. I always tripped whenever possible in places where God's ideas for the earth could give a good account of themselves.

Now it's important to me to live alone in the country for long periods of time in a large, open valley. It's not only healthy, that is, good for the soul, it's educational: it sets the record straight. One is reminded of what the planet is actually like, of what duration feels like, unaffected by all-news radio, of how easily we exaggerate our importance in a man-made world. I like the rhythms of nature too, and the way, the more you listen, the more they take over. And if you can listen to a stream un-self-interestedly and undistractedly—well, I'm still working on that one. . . . The country is also superbly conducive to copy editing. Now if only they still made decent LSD.

The most comprehensive effect of psychedelics, however, if I had to choose just one, has been to make me more inner-directed; to allow me to dance to a different drummer. Tripping strengthened my feeling that what was important to me would not necessarily reflect anybody else's idea of the good life. Although I have good friendships, I feel that nobody is likely to know what is better for me than I do: my life is only as good as my ideas, my values, and my energies make it (with a little help from a great deal of good fortune).

In any case, I feel more cynical and lure-resistant than most people around me, and I know I need less of everything to get by. It's paradoxical: I started out cynical-sophisticated, and now I'm "cynical" in a very different way. Perhaps the elitism or imperviousness that I sense in myself is like a gene that would in any case have expressed itself in one way or another. (Even when acid "hit campus," I didn't jump into taking it; I watched and waited and observed what was going on among my friends). Perhaps I always had to feel a little separate from the herd. Now this trait has burgeoned into a full-fledged career of not-buying-it, of being a wary and voluntarily alienated nonidentifier. Psychedelic drugs enhanced my capacity to see through things, especially the ways in which the man-made world tries to manipulate us. They enabled me to read the signs.

## THE TRIPPING EYE

Jon Lomberg

Nataraja dances in all the worlds at once—in the world of physics and chemistry, in the world of ordinary, all-too-human experience, in the world finally of Suchness, of Mind, of the Clear Light. . .

—Aldous Huxley (*Island*, 1962)

My vision seemed all projected through a sort of transparent sea urchin shell that began at the end of my nose and rose to infinity in clear, organic geometries. Tier after tier, layer after layer of ribs and webbing curved together in nested vaults and domes. I was embedded in an Onion Cathedral, and the center of the dome was the exact center of my field of vision. My brain was processing the patterns of sight into a three-dimensional mandala. The clouds in the sky, the jungle of uncut grass on the lawn, the pile of dirty dishes by the sink could each be quadrant and ordered by the fine, glassy grid, and in their symmetry acquire significance. The cosmos seemed manifested in every scene and prospect, because everything was part of the same mandala. Since the center tracked along with the turning of my glance, each part could become the center, so it was really my observing self that was the center of the mandala. A bird would stitch across the buttermilk sky and become, as he left strobed images of himself along a hem of clouds, another perfectly composed detail of that moment's mandala, of that micro-second's order. To perceive this order, I had only to sight along the crosshairs of my consciousness and say "There. . . ."

I wrote that after taking some LSD in 1979, though the experience described is typical of the kind of perceptions LSD had generated in the score of trips I had taken since 1967. For me, the psychedelic experience was an important event in the recognition of my vocation as an artist. It has remained a major source of insight into a general notion of what art is supposed to be, and also a method of conceptualizing and visualizing specific pieces. Any reader familiar with my artwork will note that there are other sources of inspiration and ideas—particularly concepts in astronomy and the other physical sciences. In my own field of astronomical art I am something of a maverick. My idea of what astronomical art can be is some-

what different from that of most of my colleagues. Astronomical art has traditionally been landscape painting in space, an attempt to render in photographic detail what the eye or camera might see if it was looking at, say, Saturn from its moon Dione. I have been more interested in making combinations of details and objects that at first seem unrelated but, to me, have some intellectual and visual connection. I have painted seashells full of stars and planets, backbones and figures forming in the glowing gas of emission nebulae or in the dark dust clouds that knot in silhouette across the radiant Milky Way. I have found the styles and motifs sometimes associated with mystical or religious art most appropriate in the depiction of, for instance, a view down the long axis of the double helix of the DNA molecule. If I try to trace the development of this kind of vision in myself, I find that though I had, perhaps, certain natural "visionary tendencies," my experiences with psychedelic drugs helped me give my ideas form in paintings.

I think most art springs from intense inner experience, not necessarily involving the ingestion of psychoactive substances. Passionate religious feeling, for instance, has inspired artists to produce their most deeply felt and moving works, works that are the glory of Christianity or Islam. Many of the artists whose work has been important to me had no experiences with psychedelic drugs. At least I don't think that Leonardo, Mozart, Escher, Rodin, or J.S. Bach ever experimented with such substances (though it's interesting to note that one of J.S. Bach's very few secular cantatas deals with the conflict between a father and daughter about the controversial and "dangerous" new mind-altering drug sweeping Europe at the time—coffee. Bach ends up defending coffee drinking!) But it's clear that the very greatest art can be produced entirely independent of drugs. On the other hand, works like The Beatles' *Sgt. Pepper's Lonely Hearts Club Band*, R. Crumb's *Head Comix*, and Thomas Pynchon's *Gravity's Rainbow* have psychedelic experience inextricably bound up in their style and content. In this essay, I will first talk about my own development as an artist and then make some observations about artists and drugs in general.

People sometimes say that they don't "need" drugs because they can have the same sort of experiences naturally. I've had many profound and deeply moving experiences watching waves and clouds on beautiful days, too, and I have had spontaneous epiphanies of insight and "vision," but I have always found that those with drugs are quite different from those without. I will illustrate with two examples from my life.

My earliest recollection of a "visionary" experience concerns the hood ornament on my Uncle Morris' car. I was about eight years old. The hood ornament consisted of two stacked chrome "v"s; one "v" was placed exactly over the other, and the bottom one was pried open to about 80 degrees, the top one pinched closed to about 20 degrees. I remember looking at this device one hot summer afternoon for a very long time, and seeing in it a representation of opposing forces: male/female; active/passive; tension/repose. Neither shape alone would have conveyed the feelings; their placement, together and opposed at the same time, unified them. When I first saw the Yin-Yang symbol many years later, my first thought was of my uncle's car. I was delighted to find that shapes devoid of content could produce feelings of meaning, in the same way that musical notes, in a pattern seemingly devoid of content, can convey very specific images and emo-

tions. Thereafter I was not bound by the prejudice that a painting must be "of" something, and could often see, in decorative or geometrical design, similar rhythms and meanings.

Let me compare this to my first experience with LSD, which took place in New York City in 1967, when I was eighteen years old. I was at the apartment of a friend who had access to pharmaceutical acid manufactured by Sandoz. We each took 500 mcg.

The first indication that something was happening came when I looked at the single candle that illuminated the room. The light appeared like heavy cream, flowing onto the floor, spreading to the walls, and filling the room to the ceiling with glittering webs of light. It was the most beautiful sight I had ever seen.

For a long time (I later found out that it was 3 hours) I sat with my back against the wall. My eyes might have been rolled up inside my head, because what I saw had nothing to do with anything in that room. I "saw," though that is not quite the right word, the evolution of the universe. I felt the various stages of cosmic evolution, inventoried a thousand planets, participated in the molecular dance of life. Subjectively, I lived and experienced 10 *billion* years, feeling it second by second. My Name/Address personality played no part in the pure consciousness with which I observed everything. During this long journey I saw recurrent images of mandala-like forms that had all the eloquence of a dead tree reaching the horizon. Their shape seemed spare and simple, but perfectly mirrored the interplay of forces in the complex natural universe. Eventually I saw life arise on this planet, and humans evolve, and civilization develop to the point where a person with my Name/Address personality sat in a room and took some LSD and saw the evolution of the universe. (For months afterward I was unable to shake the idea that somehow that part of the trip had lasted not 3 hours, but 10 billion years plus 3 hours.) In the hours that followed, the world and my life seemed a novel that I was speed-reading with total comprehension. Blizzards of memories whirled—bits of T.S. Eliot's *Fire Sermon*; an intricate map of bus routings of Philadelphia's rapid transit system; sense-images of my own circulatory and nervous systems, accurate down to the last capillary and neuron; a thousand more images each second. I wondered if I would ever return to normal consciousness. Mostly I hoped I wouldn't. God-consciousness seemed preferable.

But of course I did come down, and in the months that followed I tried to remember and understand what that experience had shown me. Like the hood ornament image, the insights and connections the trip had given stayed with me; but the total disruption of ordinary thinking and the power of the experience was far greater with LSD. People often say that the LSD experience can be attained through various non-drug means—fasting, meditation, etc. I doubt it. This is not to say that the insights, blissful feelings, and creative work that LSD might inspire can't come in other ways (Bach's vision of Order was, I am sure, far profounder than mine). But the sensory effects, the increased velocity of thought, seem to me peculiar to the influence of the drug. Whatever else LSD is, it is uniquely flashy.

After this trip, the rock posters from Fillmore East and the Avalon Ballroom, and the graphics in the San Francisco *Oracle* suddenly made sense. Artists like Crumb, Victor Moscoso, Rick Griffin, Kelly/Mouse

studios, and many more were creating trip-inspired work that combined Art Nouveau, photography, highly decorative (and distorted) scripts, and mystical images to advertise rock groups whose music dealt with the same experience.<sup>1</sup> I understood what these artists were trying to do, and I conceived an enormous respect for their enterprise. They seemed like explorers or big game hunters venturing into *very* strange territory and bringing back alive what they had seen. These artists were doing something more than rendering objects from everyday reality. They were making it possible for others to see their own interior visions. I decided then that I'd like to be an artist.

Up to this time, I had spent virtually no time drawing pictures. But during my last two years in university, which coincided with my initial psychedelic explorations, I began to devote much time to drawing and painting. At first I tried to copy the rock posters, Marvel comic books, and other artwork whose zappy style seemed to resonate with acid's electric visions. My first attempts were clumsy, but painting and drawing were more fun than anything I had ever done. It was clear that the range of lifestyles and outlooks that my society had shown me ran the gamut from A to B; so like many others of my generation I began exploring non-Western philosophies and concepts. I was particularly struck by the Eastern concept of Mandala.

In certain Eastern philosophies visual designs are used in meditation to achieve an expanded state of consciousness. The general term for these designs is "Yantra," which literally means "engine," since yantras are engines for exploring consciousness. The most common form of yantra is the mandala, which in Sanskrit means "circle." Mandala designs are usually arranged symmetrically around a center, the symmetry being radial or concentric or both. Mandalas are found throughout the East, in the arts of India, Tibet, and China. But they are not confined to Far Eastern art. Islamic artists in the Middle East used mandalas to decorate the domes of the holiest mosques; the builders of the Gothic Cathedrals embodied them in magnificent stained glass windows, such as the Rose Window at Chartres; the great pre-Columbian cultures of Mexico and Central America arranged their stone friezes and calendars by the mandala design. There is a textile museum in Toronto which has an extensive collection of cloth from all over the world, and mandala-type designs are found in Central Asian rugs, in the double ikats of Indonesia, in woven raffia robes from Africa, and in wool ponchos from South America—in fact they are found in almost every human culture. And this symmetry is found in nature too—in crystals, cells, and organisms, in the isotropic radiation pattern of energy from stars, in the structure of globular clusters that orbit our Galaxy . . . everywhere.

Many of the kaleidoscopic images I saw while tripping were reminiscent of the mandala designs I began seeing everywhere. Obviously, people everywhere had discovered mandalas and had understood them to be spe-

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<sup>1</sup>This genre has been dubbed "*Art Eureka*" in a book of that name, subtitled *The Great Poster Trip*, and this phrase conveys the sense of awestruck discovery most psychedelic artists tried to communicate.

rial, important, and somehow connected with or at least reflective of mystical or meditative or religious experience. These designs also seem particularly connected with psychedelic experience. In their book *Psychedelic Art*, Masters and Houston point out that they are one of the most common images reported by people who take psychedelics, and it is no accident that psychedelic art, in its purest images and in its crassest schlock imitations, often uses mandalas. Psychedelics brought me to a special appreciation of mandalas as beautiful designs in themselves and as a *way of seeing* anything. Mandalas are a way of visualizing the concept that everything is connected, everything springs from the same center, whether that center is identified as the Singularity that birthed the Universe in the Big Bang; as the DNA that is at the center (literally and figuratively) of all cells on Earth; as the raw energy that forms the hierarchy of neutrinos and quarks, leptons and baryons that are the bricks of atomic architecture; or as the human consciousness that is the center of any individual's perception of external reality. Tripping can make you incredibly aware that reality is continuous in fabric and scale, everything touching. Formed of a trillion cells, acting as one unit in the biosphere, linked to the planet by the food we eat, the air we breathe, we are each of us both macrocosm and microcosm: wheels within wheels, mandala within mandala.

I tried to incorporate these ideas in my painting. Science seemed the best method for revealing the details of reality, so I began depicting some ideas of science in a mystical, visionary style. By extension, the Earth itself could be viewed as part of a larger system—a cell in some larger body whose connective tissue might include radio messages crackling between the stars. Sometimes I have taken a concept—even an actual chart or log/log graph from astronomy—and portrayed it as an element of a mandala. The mandalas of Tibet often contain details of buildings and animals found in Tibet; cathedral windows in Europe contain in stained glass vignettes from the lives of saints. If some "Clear Light" infuses everything, then it infuses a Hertzsprung/Russell diagram of RR Lyrae variable stars branching off the main sequence, it infuses every plot of crater densities in Alba Patera on Mars. In our time, these images have swirled into a snowstorm of reality. Without distorting their meaning, or invoking supernatural forces, I have seen them as parts of the Great Mandala we all inhabit. There is, of course, no way to test the premise that I would have arrived at my particular view of things if I had never had drugs—I can't go back in time and live my life over, changing that one variable—but it is my subjective feeling that psychedelic experiences were significant influences along the way.

The work of other artists has been influenced by these experiences also; and it is interesting to compare the work of some artists before and after they had psychedelic experiences. The British writer Aldous Huxley had established a reputation as a man of letters with his novels, essays, and criticism. His early novels, such as *Chrome Yellow* (1921), and *Antic Hay* (1923) were pungent comedies of manners, depicting with wry cynicism and clear moral convictions the foibles and illusions of British society between the two world wars. In essays written during the thirties and forties, before he had taken psychedelics himself, he discussed the possibilities presented by drugs (*Wanted: A New Pleasure*, 1931; *Propaganda and Pharmacology*,

1936). He *invented* drugs in his novels. In *Brave New World* (1932), people were enslaved by a drug called *soma*, which, unlike its Vedic namesake, was a mildly psychedelic tranquilizer. In 1953 he read a paper by Dr. Humphry Osmond, who had been working with LSD in a hospital in Saskatchewan. Huxley was intrigued by descriptions of the psychedelic experience. A correspondence followed, and Osmond administered mescaline to Huxley. In 1954 Huxley published *The Doors of Perception*, which remains to this day one of the most vivid and incisive discussions of the psychedelic experience. *Heaven and Hell* followed in 1956, and in 1962 he published his last novel, *Island*.

In *Island* Huxley invented a **Utopia** to balance the dystopia of *Brave New World*—a perfect island community where young people underwent a rite of initiation that included a psychedelic called Moksha (which means "Liberation"). Moksha was, in contrast to soma, a "positive" drug. In the novel Huxley expresses the hope that "a substance akin to psilocybin could be used to potentiate the non-verbal education of adolescents and to remind adults that the real world is very different from the misshapen universe they have created for themselves by means of their culture-**conditioned** prejudices." The fact that the end of the novel has the island community being destroyed by hostile external nations shows that Huxley's trips had not caused him to lose touch with that "real" world he had written about in his younger days.

The finest example I know that shows how psychedelic experience can inspire a literary style is Thomas Pynchon's *Gravity's Rainbow*, a magnificent and controversial novel by an enigmatic writer. Though the book is set during the closing days of World War II and mostly concerns V-2 rockets, it is equally about the present day, how the world is run, and the nature of thought. While a fluid, highly allusive novelistic technique had been present in English literature since Joyce's *Ulysses*, Pynchon's exhausting, dense, giddy prose adds another level to the technique—a stream of *stoned* consciousness, so to speak. The reader encounters Moroccan hash, reefers, magic mushrooms, Dr. Albert Hofmann, ergotism, and enough other references to psychedelic drugs (including the marvelous song "Doper's Dream") to demonstrate that psychedelic experience is important to this writer's vision. The following paragraph concerns the hero of the book, ex-GI Tyrone Slothrop, in his wanderings around the Zone of shattered Germany. The perceptive reader will note the name of Slothrop's German friend "Saure Bummer". "Saure" is the German word for "acid."

Crosses, swastikas, Zone-mandalas, how can they not speak to Slothrop? He's sat in Saure Bummer's kitchen, the air streaming with kif moires, reading soup recipes and finding in every bone and cabbage leaf paraphrases of himself . . . news flashes, names of wheelhorses that will pay him off enough for a certain getaway . . . He used to pick and shovel at the spring roads of Berkshire, April afternoons he's lost, "Chapter 81 work" they called it, following the scraper that clears the winter's crystal attack-from-within, its white necropolizing . . . picking up rusted beer cans, rubbers yellow with preterite seed, Kleenex wadded to brain shapes hiding preterite snot, preterite tears, newspapers, broken glass, pieces of automobiles, days when in superstition and fright he could *make it all fit*, seeing clearly in each an entry in a

record, a history: his own, his winter's his country's . . . instructing him, dunce and drifter, in ways deeper than he can explain, have been faces of children out the train windows, two bars of dance music somewhere, in some other street at night, needles and branches of a pine tree shaken clear and luminous against night clouds, one circuit diagram out of hundreds in a smudged and yellowing sheaf, laughter out of a cornfield in the early morning as he was walking to school, the idling of a motorcycle at one dusk-heavy hour of the summer . . . and a heavy rain he doesn't recall, Slothrop sees a very thick rainbow here, a stout rainbow cock driven down out of pubic clouds into Earth, and his chest fills and he stands crying, not a thing in his head, just feeling natural. . .

In music psychedelic drugs had the same kind of effect—inspiring talented musicians to create new kinds of work. The Beatles are often given credit (or blame) for introducing thousands of listeners to drug ideas, and in the evolution of their own style, drugs played no small part. Obviously John Lennon was a prodigiously talented songwriter and musician before he took drugs, but in his work it's a long way from *I Want To Hold Your Hand* to *I Am the Walrus*, in which the layered levels of sound, fragmented, dreamlike allusions (Edgar Allen Poe to *King Lear*), and intricate studio production are more like *Gravity's Rainbow* than they are like Elvis Presley. Each reader can judge whether the musical culture we all share is any richer for having works like *Strawberry Fields Forever* or *A Day In the Life* as part of our heritage. As Lennon's development continued, his songs became less drug-influenced; his later work is more direct lyrically and simpler in production. The issue isn't which music is better; it's just that psychedelics seem to inspire their own genre of work.

It is interesting to compare the lyrics of Western popular music as interest in psychedelics waxed and waned. Before the middle sixties, most pop music had one subject: courtship and love. There was the occasional silly novelty song like *One Eyed, One Horned, Flying Purple People Eater*, but most song lyrics of the fifties and early sixties were about dating and heart-break. Titles like "Breaking Up Is Hard To Do," "She Loves You," "It's My Party And I'll Cry If I Want To" exemplify the lyrical direction of popular music at that time. As drugs entered the scene, songwriters and musicians became interested in interior experience, outer space, and the Meaning of Reality.

Sometimes the attempts were pretentious; sometimes they were successful. But it was refreshing to see musicians striking out in such new directions. Typical titles of popular songs by internationally famous groups of the time: *Magical Mystery Tour* (Beatles); *Legend of a Mind* (Moody Blues); *Eight Miles High* (Byrds); *Cosmic Wheels* (Donovan); *Schizoforest Love Suite* (Jefferson Airplane); *A Very Cellular Song* (Incredible String Band). Can one imagine the following lyrics from the Incredible String Band's *Maya* appearing during the fifties?:

The Great Man, the great Man, historians his memory  
 Artists his senses, thinkers his brain.  
 Labourers his growth  
 Explorers his limbs  
 And soldiers his death each second  
 And mystics his rebirth each second

The music as well as the lyrics of pop music reflected a growing tendency to experiment with instrumentation (sitar, electronics, synthesizer), arrangements, and studio productions.

In the seventies, interest in powerful psychedelics diminished, and there was a return both in content and style to earlier pop forms. Recent hits, typically, are again mostly about love and sex, with titles like *You Light Up My Life*; *Is She Really Goin' Out With Him* (a current hit as I write this); *Saturday Night Fever*; etc. Acid rock gave way to disco at precisely the time that alcohol began making a comeback among young people as a recreational drug of choice. Yet the musical legacy of the sixties is still with us in the lush textures of groups like Genesis, Yes, and Pink Floyd. Music sounds different now from the way it sounded before 1965, and while some of the fervent inspiration seems to have dried up, the refinements in studio production and mixing have been sustained.

In the visual arts some of the trappings of psychedelic art, like Day-Glo colors, seem trite and dated. But any cursory comparison of book or record covers now and before 1965 shows that there is much greater variation in design and style. The drug era seems to have stimulated interest in surrealist, visionary, Far Eastern, and Native American art—all forms, by the way, that avoid the anti-representational, elitist, critic-oriented styles of artists for whom a painting is a surface, not a picture. Special effects in film (the Star Gate in *2001*, the jump into hyperspace in *Star Wars*) are strikingly reminiscent of LSD visions, the mandalas and endless corridors of the trip. And now, even network TV logos try to achieve this look, and television sports programs employ the stroboscopic imagery common in psychedelic paintings.<sup>3</sup> It doesn't even matter whether the network video technicians and the art directors of publishing companies smoke marijuana or take LSD (though I'm sure many of them have). By now, the styles and innovations of psychedelic art have passed into the common visual vocabulary of our culture; and just as Giotto's innovation of perspective was further developed by many other painters who found it useful, the inspiration that originally came from chemicals has diffused into the society at large so completely that we sometimes forget its origin.

I can see now that LSD did not put new ideas into my mind as much as stimulate propensities that I always had had—an interest in the romance of science, a deep love of art, and a metaphorical way of combining things. Before acid my "hood ornament" insights came in droplets and at long intervals. LSD seemed to turn them on full torrent. On an LSD trip, nearly anything one looks at can seem pregnant with meaning, embodying great truths. I tried to learn to see this way at will, envisioning the universe as a simple, unified thing and noticing in every small simple thing a universe of complexity. In natural forms like seashells there is a whole interior universe of order; and if you look closely enough at any one shell (or plant, or stone) you will eventually see everything else. I accept the premises of rationality as a methodology, and view the phenomena rationality reveals with an attitude of reverence and awe. Holiness does not reside in gods outside of nature. Holiness *is* nature, and our attitude toward rocks, whales, DNA spirals, and galaxies should be one of reverence.

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<sup>3</sup>In imitation of the prolongation of after-images that LSD often causes.

One thing LSD did was to make me unafraid of words like "holiness." In intellectual and artistic circles such words are quite unfashionable. Reverence is passe, and there are artists who say that painting should have nothing to do with beauty.

In the inflatable hamburgers and painted soup cans and white on white canvases typical of some schools of modern art, I see a retreat from vision, a cynicism and nihilism that rejects the inspiration of a universe that still opens the flowers in spring, weaves the spider's web, and swirls the atmosphere of Jupiter into the riot of color photographed by Voyagers 1 and 2. If psychedelics helped me keep faith with the truth in beauty, then I consider my experiences with them worthwhile.

Apart from some sketches, a kind of personal art shorthand, I have never actually worked on a piece while tripping. That would be too much like composing a sonnet about love while actually making love. Wordsworth's old definition of poetry as "emotion recollected in tranquillity" is applicable to the relation between psychedelic experience and actual creation. My artistic inspiration, to be sure, is drawn from a great many other sources as well: extragalactic astronomy; the unmanned exploration of the solar system; the scientific attempt to detect the beacons of other civilizations with radio telescopes; classical music; numerical patterns such as the Fibonacci series; etc. The attempt to synthesize all these has, perhaps, been psychedelically inspired.

The subtleties of the mind defy simple categories. There are artists with a vision like mine who have never taken drugs, and I know one painter who loves LSD and paints totally realistic oil paintings. But most of the artists I know personally have experimented with drugs at one time or another, even if only briefly. I can recall none who believe that their abilities have been impaired or damaged, and I know many who have found the experience valuable.

I doubt whether artists will have much power to shape public policy on psychedelics, but I also doubt whether illegality will ever dissuade artists from exploring all sources of stimulation and inspiration. I hope to see a day when artists, and indeed anyone else who wishes to explore all the possibilities of mental experience, will have the legal option to use substances having such power and promise.

## RECOLLECTIONS OF THE PEYOTE ROAD

George Morgan

My thoughts about Peyote are closely interwoven with the religious context of the Native American Church, the Peyote religion of the American Indian. In my experiences with this sacred plant, Indian Peyotists have been my companions. I am grateful to them for their patience and understanding, and their willingness to adopt me into their church. Peyote is considered a holy medicine among members of the church; and it is used with the utmost respect. The teachings of Peyote go beyond the confines of the *tipi*; my experiences sitting by the sacred fireplace have helped guide my daily life. Peyote ceremonies have also allowed me the opportunity of being closely associated with the Sioux, who are quite remote psychically and geographically from the mainstream of American life—far more remote than many of us realize.

Most Sioux Peyotists are full-bloods and traditionalists; their great-grandfathers were buffalo hunters and warriors. They live in the spacious beauty of a pine and prairie landscape, but by our economic standards they are distressingly poor. As late as the early 1970s many Indians in the Pine Ridge country were still using kerosene lamps. They have retained their native language, Lakota, and their knowledge of English is limited. Lakota is spoken throughout the Peyote ceremony. At ceremonies someone has often interpreted in English for me, but through the years I have come to understand much of what is said; and much requires no words.

I attended my first Peyote ceremony in 1964. That eventful night in a *tipi* at Wounded Knee was the first of many meetings and the beginning of my acculturation to the Indian way of life. Although I was thirty-one in 1964, I was a child in the Peyote religion. The Sioux have patiently watched me grow up in the Peyote way, and in their eyes I am now a teenager of sixteen. They liken their religion to a school; one peyotist has said: "You learn in here just like at school; it is graded and becomes easier the farther along you go." In reference to my learning, the same man said: "It is good that you are starting now; you can always learn more from Peyote, but you will never learn it all."

Peyotists at Pine Ridge constitute less than 2 percent of the population (about 15,000 in 1980). The church membership is growing from within because of an increase of children in Peyote families, but the number of new members from outside these families is negligible. The Peyote religion at Pine Ridge is like a large family: almost everyone knows everyone else.

Other reservations have a much higher percentage of Peyotists: among the Navajo of the Southwest, about 50 percent. Despite the Sioux Peyotists' small numbers, they are famous among Peyotists of other tribes, especially for their songs. Since the Peyote religion is pan-Indian, members often attend meetings with other tribes. At one meeting I attended, seven tribes were represented. Thus for an Indian visiting the reservation of a tribe not his own, the Native American Church is a home away from home.

Although the Peyote religion is definitely Indian, it includes some vital Christian elements. Christianity has influenced the pre-Columbian Peyote religion since the early sixteenth century, when Spanish friars came to the New World. Peyotists know and accept the Ten Commandments and the teachings of Jesus; at Peyote meetings participants often recite the Lord's Prayer, sometimes in English. Considerable time during ceremonies is devoted to prayers. Indians are an intensely religious people; their prayers to God and Jesus come to them easily and naturally. My prayers are still a little awkward, although as a member of the Native American Church I have had ample practice.

Next to the prayers, Peyote songs are the most important part of the ceremony. As each person receives the prayer staff and musical gourd (rattle), he holds the staff in his left hand and shakes the gourd with his right. The drummer and other participants often sing along. These chants, sung with compassion, create a marvelous world of sound and meaning for Peyotists like myself, engendering visions, hope, and peace. Some peyote songs are prayer chants which praise the name of Jesus. Peyote is often referred to as a sacrament; it is considered a mediator between God-Jesus and Man.

At Pine Ridge there are two contrasting ceremonial rituals and organizations of the Native American Church: the traditional Half-moon ritual and a more Christian version known as the Cross-fire. The Half-moon ritual is much older and commonly occurs intertribally in the United States; the Cross-fire occurs chiefly among the Sioux of South Dakota and the Winnebago of Nebraska and Wisconsin. The leaders (roadmen) of the Cross-fire group are bona fide ordained clergy who have been appointed by the High Priest of the organization in the State of South Dakota. As ordained clergy they are qualified to perform baptisms and marriages.

In the Half-moon ceremony each participant rolls a prayer cigarette, which is a surrogate for the peace pipe; sometimes the Bull Durham tobacco is rolled in a corn shuck. In the Cross-fire ritual prayer cigarettes are not used; the Bible, which is set next to the Peyote sacrament and holy altar, replaces the smoke. At certain times during the Cross-fire ceremony the roadman reads aloud from the Bible and interprets readings to the congregation.

Another difference between the two fireplaces is that, at Half-moon meetings, each participant is allowed to help himself to the sacrament (generally four spoons of Peyote) each time it is passed clockwise around the *tipi*; at Cross-fire meetings a man stands in front of the participants and hands each of them four spoons at least the first time the sacrament is sent around. The roadman decides how many times Peyote should be passed around, usually three or four. It is sometimes used in powdered form, but

more often as a gravy; an infusion of Peyote tea is also passed. Although individual members usually attend meetings (ceremonies) with their own group, they also freely attend the other group's meetings. Each group has its own cemetery. I like both rituals, but I have been raised in the Half-moon and prefer it.

The Native American Church is decidedly nationalistic. Military veterans are granted special honor. Since I am a veteran, I have the privilege of folding the flag at ceremonies. The official colors of the church are red, white, and blue, colors which also appear in the beadwork of religious paraphernalia; veterans have beadwork designs of the national flag. At almost all locations where meetings take place there is a flagpole; the flag is raised on Veterans Day and Memorial Day and for the funeral or memorial of a member who was a veteran. The nationalism of the church is partly attributable to its pan-Indian organization; it also reflects the fact that the government recognizes the Peyote religion and allows the Indians to practice it freely. But the military character of the Native American Church may also be a continuation of the old warrior society, which retains high prestige among the Indians.

Women were formerly excluded from the ceremony, except for Peyote Woman, the roadman's wife. She came into the *tipi* in the morning, bringing morning food and water over which she prayed as a symbol of Mother Earth. It was not until the 1950s that women in general started attending Peyote ceremonies at Pine Ridge. One reason for their original exclusion was the Indian taboo against allowing women near any medicine during their menses. It is still considered dangerous to the health and life of anyone taking Indian medicine, such as Peyote, to be in proximity to a woman who is menstruating or has just given birth; thus, women during these times respectfully stay away from meetings. Recently, a woman who had just had a child ignored warnings and entered a Peyote meeting; all the men at the meeting became violently ill, and many of them vomited.

Aside from these two prohibitions, Sioux women today not only freely attend meetings, but sit next to their spouses and sometimes even sing Peyote songs. Indian women of other tribes also attend meetings, but they tend to sit together, and they do not sing. Sioux women are liberated women compared with their sisters of other tribes. Yet the Peyote ceremony still remains a man's world; the political organization and the ceremonial are run by men, and men predominate in numbers. Children accompany their parents to Peyote ceremonies; the family worship is healthy. Children begin to take medicine ritually when they become teenagers.

There is no single reason that a person is drawn to the Peyote religion. Some take refuge in the church as a last resort to cure a sickness after the white man's medicine fails. Some start attending meetings out of sheer curiosity, and some want to escape the monotony of reservation life. Many come because they have heard that the Native American Church is a place where one can talk to God and feel His presence. They have heard that Peyote can change minds, habits, and lives for the better, or that Peyote can bring happiness to man in this life. The actions, words, and morals of Peyotists themselves have been positive living examples to the Indian people. Another attraction is the close fellowship of Peyote meetings.

Members of the Native American Church do not proselytize, nor do they criticize other churches or beliefs; they prefer to live unnoticed. But some Indians object to Peyote, the ceremony, and the people connected with it. A few of these critics are traditionalists who follow the old peace pipe religion of their grandfathers and see the Peyote religion as a foreign intrusion from Mexico. The major diffusion center of the Peyote religion was Oklahoma, and tribes such as the Kiowa and Comanche were its major disseminators. It did not arrive at Pine Ridge until some time between 1904 and 1912.

Some Sioux Peyotists participate in ancestral rituals with the peace pipe, such as the vision quest and sun dance, but I know of no traditional medicine man who has become a Peyotist. Indian alcoholics are especially fearful and critical of Peyote. They sneeringly refer to Peyotists as "cactus eaters." One alcoholic told me, in a malignant tone of voice, that Peyote was "snake juice." One reason alcoholics tend to fear Peyote is their knowledge that Peyote conquers the alcohol in a person's body and pushes that poison out of his system; he would thus suffer physically and mentally through an all-night ceremony. But the alcoholic generally refuses to admit that his recovery to sobriety and awareness may be the beginning of a new life.

The Peyote road is the path chosen by members of the church. In the imagery of some Peyotists, two roads diverge at a junction. The profane road, paved and wide, with its worldly passions and temptations, is considered to be an unholy road which leads to trouble. The alternative is the Peyote road, a narrow unpaved path surrounded by a wilderness of pristine beauty. All Peyotists travel this way, but each must journey alone, for it is the road of one's own life and wisdom. In the Christian sense, it is the road to salvation. Ethically, it is a path of sobriety (a major step for most Indians), industry, care of the family, and brotherly love. Its symbol is a narrow groove on top of a crescent-shaped earthen altar that encircles the west end of the fireplace. Rather than a straight and narrow path, it is a curved path all the way, but the curve on the crescent altar is constant, never-varying, and so in a sense straight. The road has not been easy for me, nor was it meant to be. Peyotists say that up to the mid-mark of human life the Peyote road is uphill. This is indicated by the earthen altar, which slopes up to the center of the crescent, where the Peyote chief which is a specially shaped Peyote plant placed on the altar by the leader of the ceremony is set. To reach the downhill side of the Peyote chief one has to go through (accept) Peyote, for it is considered impossible to go around or over the sacred plant placed on top of the altar. The downhill road symbolizes the latter half of one's life, the easier half.

Those early years of my uphill journey were difficult because of my preoccupation with death. This morbid obsession began when I attended my third Peyote meeting. Several people present were ill, and I feared the spread of disease by the communal sharing of the spoon to eat Peyote and the cup to drink Peyote tea. Two voices within me began to talk about my death, one stressing its reality and the other constantly agreeing; the voice-exchange continued until my awareness of death became intense. I had been asleep to my death for thirty-one years; it now became an intimate reality. At a meeting that I attended, a wise elderly Peyotist said, "You can see yourself in this fireplace; you can see what kind of man you are. If you

accept what you see, you will be all right and stay in this religion; if you don't accept what you see, you will never come back." More than one man attending a meeting has thought himself attending his own funeral; he believed that he saw his own body being brought into the *tipi* instead of the morning food—the church became for him a funeral parlor. After such an experience, he may or may not want to return to the Peyote religion. That night I arrived at the junction and chose the Peyote road, which included the risk of sickness and the anguish of mental torment. Yet, in the sense that "many are called, but few are chosen," Peyotists say that "Peyote chooses you, you don't choose it."

After that traumatic night I was aware of death every day for a period of about 3 years. It was not an absorbing fixation, but it was a daily reminder, my Dark Night of the Soul. I was often awakened to the image of a black whiplash across my back and the words resounding in my ears: "You are some day going to die." At a Peyote meeting, when I told the members of my concern about death, one of the leaders stood up and said that I was off to a good beginning in the Peyote way. During a meeting 3 years later I simply became aware that it was useless worrying about the inevitable. To be uneasy is the original derivation of the word *disease*; my anxiety and worry (uncertainty) about my certain death was a disease. Perhaps there is in each of us a level where the knowledge of our own death is so strange that it comes as a shock.

The ceremonies not only exposed me to the unknown, but allowed me an insight into Sioux psychology and culture, which is so different from ours in many ways. Thanks to Peyote I have become acquainted with the genius of the Sioux mind; it has been a powerful catalyst in overcoming ethnocentric barriers. Peyote magnified individual personalities and cultural differences in a complementary manner, and showed what we all had in common as human beings. During their meetings, which lasted from 12 to 15 hours, I respectfully followed the ceremonial rules of conduct—the Indian way. The ingestion of Peyote helped us to endure the all-night ceremony and the socializing during the following day. Alone and decidedly outnumbered, I absorbed their culture under the aegis and power of Peyote. Although each meeting was a culture-shock to my nervous system, my acculturation was gradual rather than abrupt; it was a slow blood-transfusion of cultural transformation.

After attending several Peyote ceremonies I started noticing a change in my mannerisms. Especially noticeable was a change in my body movements and gestures; my way of speaking and voice quality also altered. My sense of humor and values became more recognizable among the Sioux than among people of my own culture. Sometimes I found myself willingly imitating the Sioux men I most admired; at other times I passively observed those same strong personalities controlling my actions and mannerisms. More than once during a ceremony I suddenly felt as though I had left my body, passing into a person sitting across from me and looking through his eyes at me. I have often wondered whether that person simultaneously had the same experience, but Peyotists rarely comment on their visions and appear uninterested when I tell them of mine. They generally refrain from telling anyone what they have learned, especially their deepest mystical experiences; they say that Peyote teaches each person differently.

As the Peyote religion and the Sioux became more important in my life, I began feeling more distant from my own culture, which appeared increasingly shallow, meaningless, aggressively acquisitive, and boastfully noisy. I was more comfortable with the Indians, who are a quiet, refined, and soft-spoken people; their slower pace of life was more restful to my mind, and their subtle sense of humor, especially Peyote humor, was a joy. Indians love to joke even when the joke is on them, but there is no scorn in their joking. Peyote humor is partly a play on words, especially English words which are relatively new to the Indian; they enjoy the fact that many different English words have the same sound, and that different-sounding words have the same meaning.

At the close of a Peyote ceremony, an elderly Indian was explaining the difference between the southern and northern Arapahoe language. He used English words for his example: "Where the southern Arapahoe would say 'match,' the northern Arapahoe would say. . . ?" He couldn't think of the cognate word, so a member looked up and said "lighter." Such humor and laughter is encouraged after the ordeal of an all-night ceremony. Often their humorous stories have a sober message; an example is the tale of the "monkey in the fireplace," which warns against treating the ceremony as play. The story is as follows: "No monkey business allowed in this fireplace, but everything is in this fireplace, so the monkey must be in there too. This engineer on the railroad had a monkey who watched everything he did. The engineer stopped the train and went in the depot to get a cup of coffee. When he heard the toot-toot outside, he ran out and saw the monkey taking this train down the track. Hey, this monkey was really having fun. He was driving the train just like a man. He was really driving that train fast. He missed the curve and the train went off the track, but the monkey, he jumped out of the window and grabbed hold of a tree and was saved. He watched the train go into the ditch."

We both laughed; then he became serious and said: "But all the people and children on the train were killed. That's the way the monkey is: if the man don't watch close, he will miss the curve; the monkey, he's a monkey." Then this Indian Peyotist slowly pointed to the fireplace and said: "That monkey will kill you if you don't watch him; no monkey business allowed in this fireplace." Symbolically, this story indicates that if you are careless on the curve of the Peyote road, you will fall from the altar and burn up in the fireplace.

Through Peyote I have acquired many Indian friends and adopted relatives. In particular, I became quite close to my adopted brother, Silas, an Omaha-Ponca Indian who lived among the Sioux for many years. He was a leader of the Peyote ceremony, an official of the church, and a man of great charm and spiritual power. He was about 20 years older than I, a wiser brother. Together, we spent much time visiting and attending Peyote meetings. He had been raised in the Peyote tradition, and he taught me much about that tradition and about the good life. For instance, he taught me the need for humility before entering the *tipi* to pray. To attend a meeting with a know-it-all attitude, that of a "big shot," will usually cause suffering throughout the night. He said: "Over there are some tall weeds

that are now bent by the cold. That's what Peyote can do to a man who thinks he knows everything. Peyote will bend him down and turn him inside out." I have seen that happen since and I know that his analogy was accurate.

Because of his vast experience and clear, quick mind, he was always several steps ahead of me. I shall never forget that when I told him I thought Peyote was good, his answer was: "You say that Peyote is good; what's good about it?" No one has satisfactorily answered his question. Once when Silas had a ruptured hernia, a few Peyote boys helped him through to health. They prayed, drummed, and sang through the night, and they spoon-fed Silas about 150 Peyote. He was well by morning; the ambulance returned to the hospital without him.

Silas told me of his vision when he ate that large amount of Peyote: "Brother George, I had so much Peyote in me that when I raised up from the bed the Peyote would come up my throat to my mouth. While the boys were drumming and singing I suddenly got out of bed, opened the door and went outside; a short distance from the house was a large hill. I walked to the hill and saw a shiny new ladder going all the way to the top. I climbed the ladder to the top of the hill. I looked around; everything up there was so beautiful. The air was clean and fresh; there were all kinds of pretty colored flowers. When I looked back to the ladder it was old and broken; many rungs were missing. Since I had no way of getting back down, I decided to enjoy where I was; later I looked back at the ladder and it was once again a shiny new ladder. I finally climbed down the ladder and walked back to the house. The people in the house looked very sad. I walked up to the bed and looked down at the man lying on the bed; he had his eyes closed and looked rested. I saw that the man on the bed was myself. I then lay down to rest. When I awoke my sickness was gone. The large hill was a hill of Peyote; all those Peyote represented my sins. The top of the hill was paradise." Although Silas often ate large amounts of Peyote, he told me that if a person is in the right spirit "just a taste of Peyote on the tip of your tongue is enough."

At meetings, Silas was a strict disciplinarian. At a house meeting in winter I fell unconscious from the lack of oxygen. The one-room log house was sealed airtight; it was crowded and stuffy. There was no air circulation; the fireman had brought in a large pan filled with live coals which further heated an already hot room. Silas was sitting next to me. When I fell unconscious, I dropped my pheasant-feathered fan on the floor. I was revived about 10 minutes later. The first thing Silas said to me was, "Pick up your fan!" A few minutes later I told Silas that I believed the reason for my passing out was that the live coals were eating up the oxygen. He agreed, but nothing was done about it. Under the influence of Peyote, the loss of consciousness was especially meaningful. I felt as though I had died; the darkness of unconsciousness came before I realized what was about to happen. I wondered whether death would be like that, quicker than conscious thought. A tall, quiet Arapahoe man revived me; I saw him clearly before I could hear any sound, and it was about a minute before I could hear. I went outside in the bitter cold to get some fresh air. The Arapahoe man walked up to me and said: "You are doing all right in this Peyote way,

but don't be in a hurry; take your time." Several days later, a leader in the Peyote religion who had heard about my fainting said: "I heard that Peyote finally caught up with you."

I write of Silas in the past tense because he died in 1973. Visiting his blood relations, the Omahas of eastern Nebraska, is the closest I can come to being with him. In their eyes I am a welcomed relative who has come home. Whenever I attend a Peyote meeting, especially among his own people, he is close to me. Although all tribes have essentially the same Peyote ritual, there are variations which are highly important in the minds of the Indians. Each tribe has its language and culture; each has its own style; each has its own genius. At my first birthday meeting among the Omahas, I said that since I was familiar with the Sioux way, they could continue singing while I prayed with a prayer cigarette during the main smoke. The Omahas looked startled; the air seemed electrified by the cultural transgression. After a silence which seemed to last an eternity, Henry, the leader and my adopted nephew through Silas, said: "Uncle George, we will pick up these instruments (musical instruments) again when you are finished with your prayer; that's the way we do it here, so that's the way it is going to be, Uncle George."

Although I continued to live and work within my own culture, my heart, spirit, and mind resided with the Peyote religion and the Indians. Thus, I lived in two worlds—physically among my own people, emotionally among the Indians. Living within an hour's drive from the reservation allowed me easy access to the source of my emotional life. Because of the increasing ease and frequency with which I went back and forth, my image of the reservation's entrance and exit was that of a swinging door. As I felt an increasing need to be on the reservation, I began attending more meetings and visiting more often. All of us Peyotists needed emotional support as an integral part of group solidarity and the fellowship of a community of seekers. The social group using Peyote became as important to me as the plant and its powers. Whatever their age, Peyotists are endearingly called "Peyote boys." They are a brotherhood of seekers who are youthful in spirit and attitudes, in their curiosity and willingness to learn.

As my cultural metamorphosis became less detectable to myself, it became more obvious among friends and relatives of my own culture. Yet I could never become fully Indian. A Peyotist made this clear to me by saying: "This way helps us to become more Indian and it helps you to be more like George Morgan." At first Peyote enabled me to see the Indians as I wanted to see them: in an idealizing light. But eventually I learned from Peyote that their culture had its own snags and contradictions, and my view became more balanced. In time, Peyote aided me in understanding and respecting my own culture. For instance, Indians have a sharing culture; we do not. Peyote helped me to understand the advantages and pitfalls of sharing. Of course, any discerning mind might in time come to the same understandings; one does become wiser with age. With Peyote too it takes time to learn about life and cultural differences; wisdom cannot be hurried.

By reconciling the opposed cultural values in my mind, I diminished their hypnotic influence and escaped the clutching grip of ethnicity. An identity crisis ended: the tenuous swinging door vanished; I stepped out of

both cultures and took a deep breath of fresh air in a cultural void. I could now enjoy both cultures, and I could move freely and safely through them. To arrive at this point along the Peyote road took me years of relentless effort.

The Peyote religion also advanced my formal education. One morning as I sat by the sacred fireplace I felt an urgent desire to journey to the land where Peyote grows and study the plant's environment and trade channels. That impulse was prompted by substantial price increases for the plant and occasional supply shortages which troubled the Indians. My university training in geography and plant ecology had prepared me to study the biogeography and economic history of Peyote. As there was a gap in the literature, I decided that this study would become my doctoral dissertation, and I felt that the knowledge gained from it would help Peyotists to secure a dependable supply in the future. I spent several months over a period of 2 years in the Texas brush country studying Peyote. I learned about the plant's life cycle, habitat, growth rates, and geographic range past and present. I also studied the history of Peyote trade between the *Peyoteros* (a group of Spanish-American Peyote traders) and the Indians.

I sincerely believe that Peyote guided me in this study, for I met no obstacles in seeking information about a delicate and somewhat secretive subject. I also believe that Peyote protected me from harm in the rattlesnake-infested thorn brushes. The details of my study are too complicated to relate here, but the thesis is of value in understanding the present problems of Peyote supply and how they arose. If Indians make the effort, as they surely will, there should be a dependable supply for their needs in the future. In a strange way I feel as if Peyote selected me to do that study, for other Peyotists with artistic talent have been inspired through Peyote to paint religious paintings connected with the ceremony; others have done beautiful beadwork.

I would not casually suggest to anyone that he attend a Peyote ceremony. It is difficult to sit through an all-night ceremony. And Peyote is not easy to swallow: it is extremely bitter, even to experienced Peyotists, and occasionally nauseating, especially for beginners. A person of sincere intent would be welcome: it is a church. He would find hospitality: Peyotists are courteous and respectful. But it is well to remember that Peyote is not a plaything; Peyotists say that "if you play around with Peyote, it will turn around and start playing with you." The Native American Church is not for the curiosity seeker: it is a serious religion.

The Peyote road has shown me many wonders, and I believe it is the same for other Peyotists. I shall continue to follow that adventurous path, that sublime way of life.

## THE WORLD OF THE UNBORN CHILD

**Leni Schwartz**

I have come to believe that the experience of gestation and birth has shaped, at a deep level, my responses to dramatic changes that have taken place in my life; this belief has come about partly through the influence of LSD.

About a decade ago, I started on a journey of discovery to learn more about the impact of physical space on our behavior—a journey which became an exploration of birth.

For 20 years, I had collaborated with architects and individual clients in designing spaces where people lived, worked, and spent their time—residences, offices, hotels, restaurants. Creating aesthetic harmony was what I loved to do. I was endlessly fascinated by the ways people, individually and collectively, "designed" their lives, and the ways in which personal style evolved and was expressed. But I had begun to question my role as an "expert" to whom people yielded their power to make aesthetic and functional decisions about the environments in which they worked, played, ate, made love, and raised their families. I was perplexed about why so few people seemed aware of what they liked in color, form, and scale. Furthermore, this seemed to be connected with a general lack of awareness of what felt harmonious for them, since physical space does not exist apart from the social, psychological, and spiritual complex of which it is but one manifestation. I felt increasingly uncomfortable about the fact that in designing their space, I was designing people's lives as well. I wanted to understand more about how aesthetic development occurs.

In the Fall of 1971 at a conference in Maryland, I attended a lecture by Dr. Stanislav Grof. He was introduced as a psychiatrist, originally trained as a traditional Freudian psychoanalyst in his native Czechoslovakia, where he had conducted LSD research for many years, and since 1967 had been working in the United States by special invitation of the Maryland Psychiatric Research Institute. He appeared to be in his early forties, looked conventional in his suit and tie, and spoke in a quiet manner with academic aplomb.

In his talk, he discussed the complex levels and dimensions of human consciousness as manifested by his subjects during his 20 years of research with LSD therapy and careful analysis of some 3,000 sessions of material. All patients, said Grof, apparently moved through similar levels during their sessions. They passed first through aspects of their own life experi-

ence—birth, childhood, adulthood—and then into experiential realms described in mystical traditions, experiences of ego-death and rebirth followed by "satori"—the dissolution of ego-boundaries and the loss of duality, an unfolding awareness of cosmic unity, a sense of Oneness.

He spoke of psychedelic drugs, particularly LSD, as tools that, properly used, "could enable one to study psychic material that is buried in the deepest layers of the unconscious and is usually inaccessible to less dynamic techniques." One of the major categories of psychedelic experience, he said, is unquestionably connected to the first and possibly most traumatic event of our lives—our birth. He felt that the memory of our birth may lie within each of us and can, under the right conditions, be evoked and "re-experienced." His ideas fascinated me, and pointed the way towards the study I would undertake.

Much change was occurring in my life: some of it reflected the sweeping social upheaval and value shift that was affecting people everywhere (married couples, especially); and some of it was unique to my personal journey. I was moving into another cycle of my life. The more I questioned, the more the structure of my life began to strain and change position. It is easier to cling to the known, the familiar, to the seemingly secure, to be unwilling to leave our childhood, a relationship, an unrewarding job. Jung speaks of this stage of life as a time of "individuation;" Maslow discusses "the movement towards self-actualization."

I entered an external degree Ph.D. program as a candidate in Environmental Psychology. During the summer months of 1972, I traveled in Europe on my own, separated from my family for the first time in 24 years. (I recall turning around constantly to see where they were.) I had many birth dreams: images of traveling on boats and trains, passing through tunnels, moving out of caves into the light, losing my clothes, finding new shoes. I interpreted these symbolic birth dreams as an encouragement to break out of old patterns and journey into the unknown.

Grof's insights created a framework for many heretofore seemingly unrelated experiences. His theory implied that we are influenced very early in our existence and that we remember our experience in some as yet unknown way. Hearing about his clinical work revived a long-forgotten desire to take LSD under the controlled conditions he described, with an experienced guide. Some time later, Grof invited me to participate in one of the three research programs that he was conducting at the Maryland Psychiatric Research Center. I volunteered for one that was to study the experience of artists, writers, theologians, and psychologists. (In the early 1970s, the Maryland clinic was one of the last remaining clinics in the U.S. in which approved and funded LSD research was taking place).

Although I was pleased to be considered for the Baltimore project, I was nevertheless quite frightened. I went through the interviewing and psychological testing and was accepted. I was considered a mature, psychologically healthy subject, married for 24 years, mother of three grown children, a professional artist and interior designer. A date was set for my first session.

The afternoon before the scheduled session, Grof and I talked about what I might expect. He described the procedure and showed me the environment in which it would take place. He explained to me that I would lie on a couch, my eyes covered by shades, listening to music through head-

phones; I would be encouraged to remain in a reclining position. "We have found," he said, "that these procedures help people focus on the internal phenomena that are unfolding, and prevent external distraction. Music is played throughout the session and is an integral part of the experience. The headphones intensify and deepen the experience."

He suggested that I choose a selection of my favorites which would evoke a range of emotional responses. During the session, he continued, he preferred to keep verbal communication to a minimum so that conversation would not intrude on my experience; but he assured me that he would be present and aware of my needs. He reviewed the states of consciousness that the psychedelic experience may produce. He asked questions: "Was I nervous? How was I feeling? Was there anything in particular that I was concerned about?" We talked about my personal history and the issues I was confronting. We discussed my longings, fears, and expectations, and the wide swings of elation and depression I had been experiencing recently—which were not unlike the emotional ups and downs of pregnancy. Indeed, I was pregnant with a new self.

Grof inquired about my dreams and fantasies of the past few days. He described LSD as "an amplifier or catalyst which would enable me to explore the deeper recesses of my mind." We talked about letting go. Would I be able to let go during the experience? Surrender to the hidden parts of my unconscious? I wasn't certain. It was quite possible that by controlling my feelings, not allowing them to flood through me, I would resist the experience. At this time my husband and I were finding it difficult to allow the transformations in our creative but overly dependent partnership that were necessary if the marriage itself was to survive. How to change it and us? Was it desirable or even possible? All of these concerns affected my feelings.

As we talked, I felt increasingly more at ease. Grof was professional, warm, impressively intelligent. He inspired my confidence. (Later, during the session, when it seemed as if I were watching a movie inside my head, I was to cast him as the god Thor, his feet planted firmly in the center of the earth.) The next day we talked again before the session. The environment felt familiar—a pleasant room furnished with couches and chairs and attractive paintings. It might have been a friend's living room. Though still anxious, I felt refreshed by a long night's sleep and open to the experience that was about to begin.

I sat down on the couch while Grof put on a record and handed me a glass of water containing the LSD. I put on the earphones, stretched out on the couch, and listened to the music, waiting, consciously trying to quiet my mind and my nervous stomach. For a fleeting moment, I recalled a psychiatrist friend's remark at a brunch many years before when two of us discussed taking LSD together. Was I indeed playing Russian roulette? Had the flower children felt like this in the sixties as they downed their "acid" on the street? Was I courting insanity, brain damage, death?

The calm, contemplative sound of the music released me from that anxious train of thought. It was *Music for Zen Meditation*, a favorite of mine. I recalled Grof's description of music as an important unifying and deepening element in the sessions.

After 20 minutes I began to feel the effects of the drug. First there was a period of abstract imagery in which forms appeared and disappeared kaleidoscopically; sometimes they were free-form, sometimes geometric and aesthetically pleasing. I moved into what seemed to be a body and sensed its form, from the molecular to the cellular and skeletal structure. I was both inside and outside; outside observing my body processes, inside experiencing them as they occurred.

The spiraling form with which I identified moved into a dim, enveloping, cavernous space. I felt its boundaries. How long I remained there I do not know. Clock time and ordinary space no longer had any meaning. Everything was happening in infinite dimension. My consciousness swelled, and I began to move slowly into a long dark tunnel. The walls moved in and out rhythmically, soft moist tissue contracting and expanding in a pulsating motion. At the end of the tunnel was a translucent, cerulean blue light, layered with lavender and sea-green, like the blue sky of the most beautiful spring day. I was suffused with feelings of excitement and pleasure.

Quite abruptly, without warning, everything changed. I felt unbearable pressure on my head and body, excruciating pain. I was being pushed from behind by an implacable force, but no forward movement was possible. Instead, the soft walls closed in. All movement stopped. I was caught in a vise-like grip—suffocating—too tiny and powerless to fight the unseen force. In an anguished cry, a mixture of rage and fear, I heard myself calling out, "Help me, I'm too small, I can't breathe, I can't make it alone. Why have you abandoned me? Where are you? I need you." For what seemed an unending time, I felt I would die—alone, abandoned, imprisoned in the dark airless cage. There was no exit. I couldn't go forward and I couldn't go back.

Then, as inexplicably as it had stopped, the movement started again. The pulsation was intense and rhythmic. The soft walls moved in and out again . . . opening and closing around me. I actually began to struggle—thrashing about, whimpering and often crying in pain. Grof moved closer, sitting beside me on the couch, stroking my arm gently to reassure me. He didn't speak or intrude. I was simply aware that he was there. As the physical struggle became more intense, he cradled my head against his side. He seemed to sense I wanted something firm to push against. It was quite true; although I was exerting all my strength, I couldn't push hard enough. Unidentified strains of music wafted through my consciousness. Once or twice, I recall, Grof whispered into my ear underneath the headphones, "It's O.K., don't resist it, experience it fully, whatever it is." Reassured by his presence, I resumed the battle.

Then, suddenly the struggle ceased and I burst out of my prison into a circle of clear blue light. The expulsion was accompanied by intense pain in my head and neck. I gasped for breath. I lay still, painfully aware of my breathing. I was exhausted, but free. I felt light and happy. I wanted nothing more than to be held, and Grof cradled me. At times it seemed that I was not breathing at all. Everything was in stasis. I was a totally dependent being. At other times I would become frightened and another chain of emotions would begin . . . increasing sadness followed by tears and a sense of

abandonment and despair. Then the cycle would begin once again—struggle, pain, the sense of being caged, release. Could it possibly be that so many years after that event, I had brought to a conscious level the pre-verbal memory of my birth?

I was shocked that I had so clearly perceived my mother as my opponent during the LSD birth experience. What if there were a grain of truth in my perceptions? Had she "given up" during labor in the face of overwhelming obstacles? If so, why had she abandoned me in the middle of the journey, leaving me to feel as if I had to perform the monumental task alone? Feelings of rage, yearning, frustration flooded me.

Fear of abandonment had motivated a good deal of the behavior in my life. It had been dealt with during my Freudian analysis, years earlier. Many times, when I had had to give up a known situation for the unknown, I had become stuck in the middle of the transition, feeling that I was pitted against impossible odds, with little trust in help from others. Often, I interpreted minor disappointments as dramatic instances of abandonment, even though I knew my reactions had no logical basis. I had always gone to great lengths to avoid the slightest possibility of being abandoned or left to "go it alone." Now I tried to connect those feelings with what I knew about my birth.

I asked my mother for her recollections and help in reconstructing the events of the day of my birth. Like many people, I had never thought to ask her for any of these details before. It was surprising to see how vividly she remembered her labor and delivery. I was later to discover that this accurate recall is typical.

My mother recalled the anxiety she had felt in anticipation of my delivery. The birth of my older sister, two years earlier, had been painful and long; she remembered being left for hours alone in the labor room amid the groans and screams of other laboring women. The nurses were busy and impersonal, and had not offered emotional support. The experience had frightened her, and my father had arranged for a private nurse and a private room to support her through the "anguish" of the second birth.

When she arrived at the hospital in the early stages of labor, she had been walked up and down the halls, according to the practice of the day, until the waters broke. She remembered that the doctor came to examine her about 10 a.m. and warned the nurse that when the water broke the baby would come fast. It was then about 11—lunch time for the private nurse. My mother was put to bed in her private room, patted on the head as if she were a child, and told by her private nurse to hold on tight until she and the doctor returned from their lunch-hour break. Alone and frightened, my mother lay rigid in her narrow hospital bed, tensing every muscle in her body in the hope that she could hold me back until they returned, terrified that I might be born as she lay there unattended in that strange room. When the nurse returned an hour later, bringing the doctor with her, my mother relaxed her hold on me. She was taken to the delivery room, and I was born 20 minutes later.

How long do those psychological traces remain with us to govern our responses? Does each of us carry frightening, repressed memories of birth? Indications are that we do. Does it matter? Is it important? I believe that it is.

In the first and subsequent sessions, I passed through all the stages that Grof had mapped in his lecture. I discovered within myself a complex inner world, rich in sensibility, symbol, feeling, and metaphor, not only for accessible recollections of my life and those more deeply stored in my unconscious, but also for those that transcended my own direct experience. It was as if the events of my life and the lives of my forebears and unknown people from earlier periods of history and diverse cultures were passing through me. I was both actor and audience in this drama. As barriers dissolved, it became apparent that we are and always have been part of an infinite family in an interdependent universal order—a complex web of interconnected and interpenetrating relationships.

These experiences changed my assumptions about how and why we become who we are, and why we behave the way we do. After the LSD experience, I became interested in the circumstances surrounding pregnancy, and viewed the environment of birth and the pregnant year as a continuum of processes that affect us throughout our entire lives. "Birth" is not a single event, but a process that begins at conception, is established at implantation, and embraces 9 months in the womb. In those first 9 prenatal months, I believe we experience a sense of oneness—oceanic bliss—and also suffer contrary sensations: earthbound discomforts caused by our mother's activities as she copes with the complex demands of her daily life. It is our first apprehension of the balance of opposites that exist in the extra-uterine world.

The birth process, viewed in this way, became for me a demonstration of how the world works, presenting us with a metaphor, a map—the symbol standing for the whole. The environment of pregnancy and birth bring to bear symbolically on the "becoming" person all that we believe as a culture and as individuals. The "delivery room" is a mirror of our customs, attitudes, and cultural state, a design solution to a set of complex relationships beyond it. It seemed essential to design a more harmonious environment for birth. As a designer, I had been interested in creating aesthetically beautiful environments for labor and delivery.

If we were more aware of the alternatives available to us, how might each of us design the experience of pregnancy and birth in harmony with nature? I found myself wanting to know more about the developmental changes that occur during pregnancy. Before I could even contemplate ways to design a more nurturing environment for this period, I felt I needed to understand its biological, psychological, and spiritual dimensions. As a result of my sessions with Grof, the focus of my Ph.D. study changed to the environment of birth. I invited him to be a faculty advisor on my committee.

In 1973 I began to design pregnancy support groups for women and men who wanted to explore their feelings during the childbearing year and begin to make an emotional connection to their not-yet-born children. In a sense we were engaging in a "prenatal bonding" ritual; although we could not hold and touch the babies, we could speak to them, fantasize about them, and prepare ourselves for the next stage, the birth of the child, by making the transition to familyhood on a gradual basis rather than in one sudden plunge after labor and delivery. Parents, I felt, should be able to anticipate and shape not only the physical/medical aspects of their baby's

birth, but the emotional/spiritual/social ones as well. I videotaped the sessions of the first 4-month-long workshop and edited them into an hour-long film. A book followed years later called *The World of the Unborn: Nurturing Your Child Before Birth* (Marek, 1981).

In the book, I trace the events that led to my interest in this question and the reasons I think the subject has such far-reaching implications. I discuss the research and personal explorations that led me to feel that our conscious lives begin in the womb. This idea leads in two directions. One can learn more about one's own birth and gestation, seeking clues on how psychology and temperament may have been shaped by very early experience. One can also concentrate on modifying current practices in regard to pregnancy and childbearing to make these periods as beneficial as possible to baby and parents in the light of new findings in the field of fetal development. The possibilities for individual transformation and cultural change are enormous. I offer this book as a tool for those who wish to begin—or continue—this quest.

Step by step, I describe the early attempts to develop support groups for prospective parents, and suggest specific ways in which they can be established in a community. Finally, I offer my vision of a Birth Center that would provide an environment where babies could be born, and families could evolve, in harmony with the parents' emotional needs and with the highest regard for the health and well-being of the baby.

When I had begun to create and lead these early workshops, I was moving from one cycle in my life to another, undergoing radical transformations that made me especially sensitive to the experiences of the women and men in my groups during the traditional crisis of pregnancy. At times, my new professional direction felt like a wild detour. Often I wondered why I felt so compelled to complete this work despite the difficulties. It was not the season of my life. My children were grown and one had children of her own. (My own experiences of giving birth had been quite wonderful—peak experiences; I had been well prepared by the Grantley Dick-Read method of natural childbirth in the late 1940s.) But LSD provided me with a map of the territory, a deeper self-understanding within a wider context than my own personal history. In envisioning a better environment for gestation and birth, I was partly projecting my present adult psychological needs on that original model. Subconsciously I understood that once again I would need a supportive matrix—a womb—to enfold and nurture me through my adult passage, just as I had in my earlier birth struggle.

I now realize that during this period of change I created a series of transitional environments for myself, environments for rebirth which have symbolized the changes taking place inside me. These personal environments have been an outward manifestation of the self, places in which I attempted to create order in chaos. The last house, in which my book was completed, is one that I completely altered. Only the outer shell remains from the original structure. The inner spaces were gutted and redesigned, the walls torn out to create a new flow, the entrance—reordered. This house has served as a way station between the old and the new, the known and the unknown.

It is set among trees like the house in which I raised my family. A new skylight creates a window to the sky, and sun pours in everywhere through new openings. The old house has settled into its new form and is gracefully reorganizing itself, and so am I. My womblike bedroom has expanded to include an outside porch; it opens to the garden beyond—a Garden of Eden with apple, lemon, pear, and plum trees, green grass, and dappled sunlight. And now I am working beyond the perimeter walls, pruning and fertilizing and replanting the garden, restoring old neglected trees and planting flowers. The land is shaping up, responding to my care; I have completed a cycle.

## **PERCEPTION AND KNOWLEDGE**

### **Reflections on Psychological and Spiritual Learning in the Psychedelic Experience**

**Frances E. Vaughan**

Little controlled research has been done with psychedelics. But my own experience, coupled with my observation of hundreds of clients, students, and acquaintances who have used LSD in both controlled and uncontrolled settings, has convinced me that we have much to learn from appropriate investigation of this powerful mind-altering chemical. The dearth of research has not lessened the impact of psychedelic experiences on people's lives and on the culture at large. Psychology in general has failed to keep pace with personal explorations in altered states of consciousness, many of them induced by LSD or similar psychedelic substances.

In the past decade, transpersonal psychology has emerged as that branch of psychology specifically concerned with the study of human consciousness. It attempts to expand the field of psychological inquiry to include such human experiences as those induced by psychedelics, as well as similar states attained through the practice of meditation or other disciplines. As a transpersonal psychologist, I have been particularly interested in the study of consciousness as it pertains to psychological health and well-being. My clinical practice is devoted to facilitating human growth and development, often on the border between psychological and spiritual domains.

My personal introduction to LSD occurred under optimum conditions. In his book, *LSD Psychotherapy*,<sup>1</sup> Dr. Stanislav Grof observes that normal people benefit most when participating in a supervised psychedelic program, and that the experience can move them in the direction of self-actualization. My own experience supports this view. As a subject in early LSD research, I was thoroughly screened and well prepared. I had also had an opportunity to talk with other subjects who felt they had benefited. My first session was a profound and overwhelming mystical experience. Subsequent sessions seemed less important, but served as reminders of insights gained in the initial one.

A most striking feature of my psychedelic experience was the noetic quality of consciousness as it expanded from its usual perceptual range to a vast contextual awareness that recognized the relativity of all perception in

space/time. I find the term *re-cognize* particularly appropriate, since the knowledge that was suddenly revealed to me under LSD seemed to be remembered rather than learned. I was awed by the vast range of consciousness, yet felt that I was simply uncovering what I had always known, i.e. the truth which had previously been hidden behind a veil of relative unconsciousness. As the illusory, changeable nature of ordinary reality became increasingly clear, I also realized how a normally constricted perceptual framework permits one to see only a fraction of reality, inevitably distorted to suit personal projections and presuppositions.

During the experience, I felt I understood what mystics throughout the ages have claimed to be the universal truth of existence. I had an academic background in philosophy and comparative religion, but I realized that mystical teachings had now taken on an added dimension. My perception seemed to have shifted from a flat, two-dimensional intellectual understanding of the literature, to a three-dimensional sense of immersion in the mystical reality.

The perennial philosophy and the esoteric teachings of all time suddenly made sense. I understood why spiritual seekers were instructed to look within, and the unconscious was revealed to be not just a useful concept, but an infinite reservoir of creative potential. I felt I had been afforded a glimpse into the nature of reality and the human potential within that reality, together with a direct experience of being myself, free of illusory identifications and constrictions of consciousness. My understanding of mystical teachings, both Eastern and Western, Hindu, Buddhist, Christian, and Sufi alike, took a quantum leap. I became aware of the transcendental unity at the core of all the great religions, and understood for the first time the meaning of ecstatic states.

I now felt I had had some direct experience of the ineffable realms of union with God, and I discovered that my dissatisfaction with conventional religion was not due to the death of God, as some theologians proclaimed, but rather to the impoverished concepts of God currently in vogue. Whether one spoke of God, the Void, or the Self, Being, Bliss, or Consciousness, did not matter, for the words were so far removed from the experience that they were only fingers pointing to the moon; they bore little resemblance to the depth of realization that became available when I let go of my preconceptions about the nature of the universe. As far as I knew, such insights into the nature of consciousness had only been attained by rare individuals, many of them advanced practitioners of spiritual disciplines.

The world view that made most sense of this experience was clearly a mystical one. Neither the subjective nor the objective pole of experience could encompass the totality. The possibility of transcending boundaries between self and other, the illusory nature of ego, the interdependence of opposites, the relative nature of dualism and the resolution of paradox in transcendence became clear. All mental content was simply the play or the dance of life, and what could be known about consciousness became the focus of my attention. Psychodynamic material that came into awareness seemed irrelevant. My own personal drama was no more significant than light playing on a movie screen. Even feelings of joy, ecstasy, and liberation in letting go of attachments were less important than the insight and sense

of knowing, or remembering, inexpressible truth. "Know the truth, and the truth shall make you free" were the words that seemed best to capture the nature of my experience. I felt free to be exactly who I was, free of fear and social constraints, and filled with love and compassion for all beings.

Although many of the insights that flooded my awareness were forgotten, many remained to influence my life. I felt I could see how much human suffering is self-imposed, how our beliefs shape our reality, and what it means to awaken to the realization that life is a dream of our own making. The dreamlike quality of existence, the unreality of past memories and future fantasies, and the acceptance of the interrelatedness of all things were insights subsequently confirmed as I learned more of the perennial teachings of both Eastern and Western contemplative traditions.

I also gained a new appreciation for the Christian teaching of forgiveness. I saw how our own condemnation injures us, and how our difficulty in forgiving ourselves for imagined imperfections contributes to neurotic guilt and anxiety. Not only did I feel forgiven for being just as I was, I saw that in reality there was nothing to forgive. This seemed to remove the obstacles to the experience of love and I felt an extension of love and forgiveness to all beings everywhere.

The subjective nature of time also became starkly apparent. My Newtonian world view was sufficiently shaken to make it relatively easy for me to accept some of the more apparently nonsensical propositions of the new subatomic physics, when they later came to my attention. Likewise, parapsychological phenomena no longer seemed incomprehensible. The fact that we could not explain part of our human experience in the existing paradigm seemed to indicate that the paradigm needed re-examination rather than to justify dismissal of the evidence.

For the first time, I understood the meaning of "ineffable." There seemed to be no possibility of conveying in words the subjective truth of my experience. A veil had been lifted from my inner vision, and I felt able to see, not just images or forms, but the nature of truth itself. The doors of perception were so cleansed, they seemed to vanish altogether, and there was only infinite being. Krishnamurti's characterization of truth as a pathless land seemed an appropriate description of this domain.

I felt that I had now experienced the grace of God. Truly I had been given a gift of infinite worth. I could understand why human beings throughout history have relentlessly pursued truth and sought enlightenment. I knew now why some felt impelled to sit in caves for years trying to become enlightened, why some were willing to die for ideals, and why suffering was endured. If asceticism was perceived as a means of attaining this state of oneness, I could understand why a person might choose it. I understood that the essence of my being was identical with the timeless essence of every living thing, that formlessness was the essence of form, that the whole universe was reflected in every psyche, and that my separateness was only an illusion, a dream from which I had, in this moment, fully awakened.

As I faced old fears and watched the tricks of my mind, I became increasingly aware of my ability to choose my subjective state. Consciousness seemed infinitely plastic. I could choose to focus the lens of attention on anything. Barriers and resistances had dissolved, and fears had disappeared

along with them. In that moment I knew that I had nothing to fear. Only the creations of my own mind and my own thought-forms could threaten me, and I could see them as if in a lucid dream, parading through the field of awareness. I was free to either attend to them or let them pass, choosing instead to experience more fully the bliss of pure being, just being present to my experience of the moment, with no added fantasy or distraction.

The affective tone of my experience was pure love. After the barriers dissolved, I could feel the depth of my love for life itself, and for my husband and children. They seemed perfect just as they were, yet I did not *need* them and therefore felt no fear or possessiveness. Life itself was enough. I too, was complete and acceptable just as I was. Old feelings of inadequacy and uncertainty had vanished.

My aesthetic sensibilities were profoundly enhanced, not only during the few hours of the session, but afterwards as well. This effect has lasted over a period of 15 years. My appreciation of music, art, nature, and human beings has continued to grow since that time. I remember being particularly struck by the joy of hearing music as I never had heard it before. I could laugh at my old self-image, which included "not being musical." I was deeply moved by each piece of music that was played. As I listened without distraction, each one evoked a different aspect of my psyche, and at the center of each was the perfect still point of pure being where one could experience union with God.

I gained a new appreciation of my own capacity for choice and the role of consciousness in creating experience. For the first time I saw the possibility of taking responsibility for my own experience. I also felt I was truly participating fully in the universal human condition. All of my experience, including the experience of separateness and aloneness, was something I had in common with all human beings. Although my personal history and the events of my life were unique, the underlying unity of life became starkly evident. The forms of expression and experience were diverse, but the underlying qualities of being were universal.

I also felt a reduction in nonspecific anxiety, and a greatly diminished fear of death. As the illusory nature of many of my worries and fears became apparent, I became more trusting and accepting of myself, and more willing to enter into unfamiliar situations and take risks in exploring new creative endeavors. As I was released from feelings of neurotic guilt and inadequacy, my increased ability to relax also contributed to enhanced sexual enjoyment. My appreciation of life itself and of the simple tasks of everyday living was also profoundly enhanced. I found myself more open in my intimate relationships, and better able to give and receive love without fear.

I also became aware of a desire to be of service in the world, to make some contribution to humanity through my work. At the same time I felt more able to tolerate paradox and ambiguity. The recognition of the interdependence of opposites has since become a useful therapeutic tool in my practice; I often think of psychological growth as a balance and synthesis of opposites. In working with others to heal internal splits and conflicts, enabling them to take increasing responsibility for their own lives and well-being, I have had many opportunities to appreciate the importance of this capacity.

The effects of this experience seemed to me equivalent to what I might have expected from several years of insight therapy. I had been able to see through and let go of many constricting patterns of thought and behavior that previously seemed automatic and beyond conscious control. Some of the far-reaching effects appeared immediately in my personal life. For several months after this experience I remained in a semi-euphoric state in which I experienced being *in love* all the time. Everything in my life seemed to be exactly as it was supposed to be. Everything was all right. None of the small things I used to get upset about seemed to matter any more. I was experiencing a state of inner peace and serenity that allowed me to cope more effectively with everything I needed to do, while I felt in touch with a sense of divinity within.

This period of my life coincided with what seemed to be a time of new hope for humankind. The flower children in San Francisco were happily rebelling against the old order, and a better future seemed within reach. A sense of euphoria was in the air; the more sordid side of psychedelia became apparent only as time went by. My interest in understanding the experience led me to graduate school to study psychology, but I soon found that Western psychological models could not accommodate it. Yet I knew I was not unique. Many other people were reporting similar experiences. Eastern consciousness disciplines seemed to offer the best maps of this inner world, and they also offered instruction for attaining such states without the use of chemicals. Now I could hear, as if for the first time, the depth of the wisdom in their teachings and in the mystical doctrines of all ages and all cultures. As I sought for words to express my own ineffable experience I gained a new appreciation for those individuals who had attempted to communicate their own insights in writing or art. I also became interested in understanding intuitive ways of knowing; many years later I wrote a book about the development of intuition, entitled *Awakening Intuition*.<sup>2</sup>

My intellect was eager to incorporate what I had learned into working psychological models. I saw a need to formulate new psychological theories that could encompass such experiences. Among Western psychologists, only Carl Jung had addressed transpersonal experiences. He wrote, "... The fact is that the approach to the numinous is the real therapy and inasmuch as you attain to the numinous experience you are released from the curse of pathology. "<sup>3</sup> That was apparently true of my experience, but it later became clear that a psychedelic experience in and of itself was not necessarily therapeutic. The popularity of psychedelics increased greatly, but few of their users achieved the therapeutic benefits I had experienced.

In his extensive research on LSD psychotherapy, Stanislav Grof noted that transpersonal experiences occur only rarely in early sessions of psychedelic therapy, but are quite common in advanced sessions.<sup>1,4</sup> Grof has provided a detailed map of the death/rebirth experience which he found to be therapeutic for many of his subjects. The experience of ego-death may be liberating and ecstatic, as it was for me, but it may also be terrifying to a person who is unprepared. However, under appropriate, carefully controlled conditions, a subject may be enabled to surmount the difficulties encountered in letting go of limiting self-identifications.

Phenomenologically, personal accounts of drug-induced mystical experiences may be indistinguishable from spontaneously occurring mystical experiences. In either case, the effects may or may not last. The glimpse of a larger reality that such experience affords may change a person's life if he or she chooses to integrate it. If, however, the experience is repressed, denied, or invalidated, it may only contribute to exacerbating existential guilt and anxiety. When a person is not able to stabilize such glimpses into transcendent reality and incorporate them into existing belief systems, they can certainly disrupt the ordinary adjustment of everyday life.

Transpersonal psychology<sup>5,6,7</sup> has attempted to formulate a conceptual framework for such experiences, since they obviously are not going to go away. Although psychedelics have been restricted, the public continues to experiment, and research continues to lag far behind. Moreover, the striking parallels between such experiences and those described by mystics raise many questions for mental health professionals. In the transpersonal domain, where psychological and spiritual growth are one, psychedelics appear to be powerful tools for the investigation of consciousness; they could enable us to expand our understanding of the human mind and the nature of creative consciousness. A willingness to question our assumptions and to keep an open mind with respect to potential benefits and potential hazards is essential.

For the past 10 years I have been practicing transpersonal psychotherapy and training therapists to work in this area. The lack of serious study in the field of psychedelic drugs has unfortunately restricted their use to uncontrolled personal experimentation. The dearth of research is clearly a drawback when therapists are so often called upon to handle situations where clients have been involved in uncontrolled experimentation. Although many people in our culture have taken psychedelics, few therapists are capable of assessing, evaluating, and integrating psychedelic experiences in a useful way. Psychedelics, like any powerful tool, may be used skillfully for the benefit of humanity, or unskillfully to the detriment of those whose ignorance leads to abuse.

As we search for ways of understanding the possibly infinite resources of human consciousness, I suggest that the potential of psychedelics as tools for learning should not be ignored. Today, when the survival of our planet is at stake, there is an urgent need to work responsibly in every facet of human endeavor. By refusing to tread where fools rushed in, we may be turning away from significant learning about human experience and how the mind works. People of differing views and persuasions must join together in exploration of the universals of psychological health and well-being and work to find ways of facilitating experiences that foster growth toward wholeness for everyone.

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## **PSYCHEDELICS AND SELF-ACTUALIZATION**

**Roger Walsh**

In their letter soliciting contributions to this book, the editors wrote, "we came to the conclusion that psychedelic drugs have influenced both the lives of individual users and society in general more than is usually acknowledged—sometimes subtly, sometimes dramatically." I was delighted to receive their invitation, since these words almost exactly expressed my own conclusions after 8 years of psychiatric clinical and research work. For 5 of those 8 years I have worked in areas such as the nature of psychological well-being, non-Western psychologies and religions, consciousness, and the effects of meditation. I have also undertaken a personal study of meditative and non-Western traditions, and I thus have had the opportunity of meeting, interviewing, and studying with a wide range of people in these related disciplines.

Whenever I came to know these people closely, the same story would emerge: that although they rarely acknowledged it in public, the psychedelics had played an important role in introducing them to and facilitating their passage through these disciplines. It occurred to me that this might well be a case of what social scientists call "plurality ignorance:" a situation in which each individual thinks he or she is the only one doing something, although in fact the practice is widespread. In this case, what seemed to be widely unrecognized was that large numbers of people appear to have derived, at least from their own point of view, significant benefits from psychedelics, despite popular media accounts of their devastating dangers.

This suspicion was deepened by an encounter with the editor of a prominent psychological journal. In an extensive review of various Western and non-Western psychologies, I discussed the data on psychedelics and concluded that there was evidence suggesting that in some cases people might find them beneficial. The journal editor was willing to accept the paper provided I removed any reference to positive effects of psychedelics; he thought that the journal could not afford to be associated with such statements. I am familiar with this particular editor's work and know that he is exceptionally open-minded. It appears that we have in our culture, even in the scientific and professional literature, a bias towards reporting only the negative effects of psychedelics.

How, then, can we get a picture of the effects of psychedelics when they are used for personal exploration and psychological growth? One approach suggested by Abraham Maslow, but as yet apparently untried in the area of psychedelics, is to ask people who are exceptionally healthy and use them as bioassayers. Maslow's technique was to identify those individuals who seemed to be most fully actualizing their potential; he called them self-actualizers.<sup>1</sup> He listed 13 characteristics, such as a deep involvement in work, peak experiences, and a good sense of humor, which identify individuals who have attained exceptional psychological well-being. While this approach has many advantages, it is not without its drawbacks and limitations. The concept and criteria of self-actualization are by no means clear, and they are largely lacking in research data and support; individuals are chosen subjectively, with all the possible biases which that entails.<sup>2</sup> However, in the absence of good empirical tests of high level well-being, we are left for the present with subjective judgments.

My research has given me the extraordinary gift of meeting some very remarkable people: mental health professionals, advanced meditators, teachers, gurus, holy people of both East and West, who have devoted a large part of their lives to mental training and psychological growth. I have spent considerable time with some of them, interviewing and being interviewed, receiving instruction on various meditative practices, listening to their talks, and socializing. As might be expected, there is a wide range of personalities and psychological maturity. I was able to interview in depth five of the very healthiest Westerners who fit Maslow's criteria and are also successful and eminent in their disciplines. V

These four men and one woman range in age from their mid-thirties to their forties. All have university degrees; three are psychologists, and the other two are highly sophisticated psychologically. Four are teachers, either of psychology or of one of the consciousness disciplines such as meditation or Buddhism. All have strong national reputations, and most have international reputations; all have published at least one book. I included the criterion of professional eminence in order to insure that the people were competent and would not be dismissed as irresponsible or as dropouts of any sort.

### *Personal Experience*

Each of these five people has had multiple psychedelic experiences. For three of them the psychedelic experience was crucial in arousing their interest in the consciousness disciplines and directing their professional careers. A fourth received LSD for the first time as part of a legitimate research experiment during the sixties, had a deep religious experience which affirmed and deepened previously dormant interests and values, and subsequently returned to school to pursue those interests further. All five report that the psychedelics have been important in their own growth and that they continue to find them useful in the context of their own discipline. On the average, they continue to use them two to three times per year, but all have gone for extended periods without use.

### *General Principles*

On the basis of their own personal experiences and what they had learned from working with many people involved in various psychological and consciousness disciplines, they suggested the following general principles, advantages, and disadvantages of psychedelics.

All agreed that they are very powerful tools and that the effects depend very much on the person who uses them and the skill with which they are used. They took it as self-evident that there are many people who should not take psychedelics, especially anyone with significant psychological disturbances. However, they agreed that used skillfully by a mature person, they could indeed be helpful. This meant an appropriate setting, at least at the start, preferably under the guidance of someone who is psychologically mature and psychedelically experienced; an appropriate mental set and expectations, including a preceding period of quiet and/or meditation; and most important, involvement in a psychological or consciousness discipline aimed at deep mental training.

### *Possible Benefits*

The first benefit was the simple recognition that there are realms of experience, modes of self, and states of consciousness far beyond the ken of our day-to-day experience or our traditional cultural and psychological models. These experiences were often said to produce expanded belief systems, making people less dogmatic and more open to as yet unexperienced or undreamt realms of being. One common report was that each experience tended to elicit a deeper realm and a more expanded sense of consciousness and self, so that the previously expanded belief system continued opening and widening.

For all five of the subjects mentioned here, and many of their students, psychedelic experience produced a new interest in depth psychology, religion, spirituality, and consciousness, as well as related disciplines and practices such as meditation. All the subjects believed that their psychedelic experiences had enhanced their ability to understand these consciousness disciplines. In particular, the esoteric core of the great religious and spiritual traditions could be seen as roadmaps to higher states of consciousness, and some of the most profound material in these traditions became especially clear and meaningful during psychedelic sessions. Several of the subjects reported that they often put time aside during psychedelic sessions to listen to tapes or readings from these traditions; they found these experiences particularly important. This is compatible with the Eastern claim that "Religion is a learning in which a basic requirement is 'First change your consciousness'."<sup>3</sup>

Most of the subjects felt that the psychedelic experience could sometimes supply a guiding vision which provided direction and meaning for one's life thereafter. They mentioned intense emotions such as love, compassion, or empathy, and the recognition that the mind can be and should be highly trained. Three subjects mentioned another residual

benefit. Someone who has had a deep positive insight may be able to recall that insight subsequently and use it to guide himself or herself through a situation where it lends an additional useful perspective, even though it is no longer directly available.

There was unanimous agreement that under appropriate conditions the psychedelics could considerably speed and facilitate the process of working through psychological blocks. In some cases this involved material which was already being worked on in an ordinary state of awareness, or could be. In other cases, material inaccessible in an ordinary state could be brought into awareness, sometimes producing dramatic transformations including death/rebirth experiences and alleviation of symptoms. Reviews of the therapeutic effects of psychedelics have not shown clear-cut results, but of course it is very difficult to detect experimentally significant effects of a single intervention.

For some of the subjects the occasional use of psychedelics provided a continuously deepening marker of their progress. No matter how much mental training and psychological exploration they had done, further realms of experience could be revealed by the psychedelics. With each major advance in their mental training, a new realm would open to them. An especially common event was to experience something in a psychedelic drug session which would recur months or years later in the context of a mental training discipline and then spontaneously during daily life. All five subjects believed that both psychedelics and their mental disciplines suggested that the range of experiences which occurred in daily living represented only a small slice of a vast, perhaps unlimited, spectrum.

### *Traps and Complications*

Although they themselves have had few serious problems with the psychedelics, all five subjects thought that there were a number of potential traps and complications. They viewed the major protection against such difficulties as consisting in a commitment to a mental training discipline and the availability of an advanced teacher for consultation about both the psychedelic experiences and the discipline. Not one of the five subjects saw the psychedelics as constituting in and of themselves a path which could lead to deep levels of psychological-spiritual growth or true enlightenment.

Interestingly, the subjects did not see acute painful reactions, such as anxiety attacks or fear of losing control, as necessarily adverse. Rather, they held that with appropriate expectations, previous work, and guidance, such reactions could lead to deep and valuable insights. This is contrary to the traditional psychiatric and emergency room perspective which sees such reactions as purely pathological and requiring medication.

Hedonism was mentioned as one of the traps associated with psychedelics. Using these chemicals for trivial sensory stimulation was seen not as wrong, but as unskillful and unfulfilling. The subjects also noted that it was possible to become attached to the more pleasant experiences, marring later sessions by inappropriate expectations and calculated attempts to recreate those experiences.

Since psychedelic experiences can be extraordinarily intense, there is some danger of not recognizing a fantasy for what it is. As one subject noted, it is not always easy to discern which experiences are valid, especially for people who are intellectually and psychologically sophisticated. Again, the best remedy was seen as a commitment to open-mindedness, ongoing mental training, and the instruction of an advanced teacher.

The same remedy was suggested for the tendency to overestimate the profundity and long-term impact of insights which may be mistaken for profound awakenings. This tendency was seen as decreasing with further experience of either the psychedelics or a mental training discipline. It was felt that deep exploration of either would produce many insights, each one adding a small piece to the gigantic jigsaw puzzle which is the mind.

An inadequate cognitive framework or context was also mentioned as a limiting factor. Sometimes extremely deep insights did occur under psychedelics, and in at least two cases there may have been a transient enlightenment experience. In one of the subjects it produced a prolonged period of confusion and partial disorientation which in turn led to meditation training. This subject experienced a deep level of enlightenment again after several years' practice and this time found the experience understandable and beneficial.

One subject thought that the main disadvantage of psychedelics is the tendency to underestimate one's own role in creating the resultant experiences. People have too little appreciation of their own power and see themselves as passive victims of drug effects rather than as active creators of experience.

One trap for people with limited experience, the subjects said, is a failure to appreciate the enormous range of potential experiences and the tendency to assume that all sessions will be like the first. Many people have made pronouncements about the nature of psychedelic effects after limited exposure and therefore have failed to appreciate the extent of differences between individuals or between one session and another in the same individual. According to reports by these subjects, as well as Stanislov Grof<sup>4,5</sup> and others, repeated exposure produces a gradual unfolding and deepening sequence of experiences.

### *Summary*

Here then are comments on the pros and cons of psychedelics from five of the very healthiest individuals I have met in the course of my research and personal investigations of various psychological and consciousness disciplines. In each of these individuals the psychedelics played an important yet unpublicized role in their life orientations and professions. Taken in conjunction with the similar findings which they have noticed in their students and colleagues, these reports make it clear that the psychedelics can sometimes have long-lasting beneficial impact. While the five subjects discussed here do not see psychedelics as constituting a pathway in themselves, they do see them as potential facilitators of development for some people engaged in a mental training program or a

psychological or consciousness discipline. The experiences and traps associated with psychedelic drugs are not seen as unique but rather as features of any mental training program, although the drugs usually produce them more rapidly and intensely. Needless to say, the capacity to benefit from an accelerated experience depends on the maturity and skill of the individual; all five subjects took it as self-evident that psychedelics should not be used indiscriminately but should be respected as the powerful tools they are.

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## A DAY IN VIRGINIA

Andrew Weil

"I can't believe *that!*" said Alice.

"Can't you?" the Queen said in a pitying tone.

"Try again: draw a long breath and shut your eyes."

Alice laughed. "There's no use trying," she said:

"one *can't* believe impossible things."

"I daresay you haven't had much practice," said the Queen.

"When I was your age, I always did it for half-an-hour a day.

Why sometimes I've believed as many as six impossible things before breakfast."

—Lewis Carroll, *Through the Looking Glass*

One spring day in 1971 I took LSD with a group of friends at my house in rural Virginia, west of Washington, D.C. It was a perfect day, warm and bright with fair-weather clouds, busy bees, and fragrant blossoms in the fields and woods. Some of the people in the group had never tried a psychedelic drug before; others of us were experienced with them. We had no great program in mind for the day. We thought of the LSD as an enhancer of experience and took it as an excuse to drop our ordinary routines and enjoy a beautiful day with no thought of having to do anything.

I will recount one episode from that day that had great impact on me and stimulated my thinking in a good direction.

Some weeks before I had started to practice hatha yoga. Having never attempted any kind of body work until then, I found the postures difficult at best and impossible in a few cases. One of the impossible ones was the plow, in which you lie on your back, raise your legs together and try to touch your toes on the floor behind your head while keeping your knees straight. When my toes were still a foot above the floor, I got a sharp pain in my neck and had to abandon the attempt. I tried this posture every day for some time with no improvement. My neck and back just would not stretch enough: a foot from the floor I would be stopped by pain. My inability to make any progress toward mastering the plow undermined my motivation to work at yoga. I began to think that I had waited too long to start, that I was getting old and stiff, that it was too late for me.

Two hours after taking the LSD I was completely light and happy, delighting in the beauty of spring. I noticed that my body felt elastic and full of energy. It occurred to me that I should experiment with yoga postures while I was in this state of great physical ease. Accordingly, I lay down on a flat stretch of grass and tried to get into the plow. As I lowered my legs behind my head, I expected the start of pain in my neck, but none came. When I thought my toes were still a foot above the ground, they touched it. I could not believe I had done it. For several minutes I kept raising and lowering my legs, touching my toes to the ground. There was no strain, no pain; the position felt easy.

This unexpected and spectacular success made my day. Suddenly I was not old and stiff. Suddenly the impossible had become possible. Why should anything be impossible? Why couldn't I do anything I really set my mind to? A supreme feeling of confidence flowed through me, and all doubts and fears melted away.

The next day, still basking in afterglow, I tried to get back into the plow. I could not do it. When my feet were still a foot from the floor, the old, familiar pain in my neck appeared, as strong as ever. The easy feeling of elastic freedom was nothing but a memory.

Things were not quite the same as before, however. Now I knew it could be done, and that knowledge motivated me to keep working at yoga. After two weeks of daily practice, I could barely touch the floor and hold the posture. After another two weeks I could get into the plow and maintain it without straining.

This experience seems to me a model of a particular kind of help I have received from psychedelics. They have shown me that certain things are possible, things I would otherwise never have believed. Yet they give me no information about maintaining those experiences. Reliance on the drugs as the only entry to desired states of being soon fails; in a short time the drugs no longer work. At best they can provide motivation to investigate other methods by convincing us that certain states are real, attainable, and worth spending time in.

In college, when I first experimented with mescaline, I had a powerful experience of mystical rapture which I did not know what to do with. The setting was incongruous: the bedroom of an ugly dormitory on a Saturday afternoon. I lost awareness of my surroundings, felt waves of joy from an unknown source and an overpowering conviction that "all shall be well and all manner of thing shall be well." This was an awkward revelation. I was not religious and could not easily fit the experience into my world view or daily life.

I did not tell many people about it. One whom I told was an older woman friend who was a devout Roman Catholic. She had no knowledge of psychedelic drugs but was quite familiar with mysticism, and I wanted her opinion on what I had felt. She called it a "gratuitous grace," a term that Aldous Huxley also used in describing one of his experiences with mescaline.

Not being well versed in Catholic theology, I am unable to go into the fine points of graces, gratuitous or otherwise, but it seems to me that the sense of that concept is a lucky blessing, real but undeserved, like finding a

piece of gold on the street. A gratuitous grace is unearned by spiritual work. Nevertheless, it might change a person's life and encourage spiritual work to earn the experience again.

It is clear that psychedelics have the potential to cut through whatever blocks stand between us and higher experiences, magically letting us enjoy, if only temporarily, transcendent states. I hope it is not necessary to belabor the point that this potential is realized if only set and setting support it. LSD combined with alcohol and PCP on a New York subway is more likely to produce a bumner than a grace, and not a gratuitous bumner.

What would have happened had I not taken LSD on that day in Virginia but done everything else the same? The question is unanswerable, I am afraid. Sometimes I feel that the drug is no more than an excuse for investing the time and energy in an experience of the present. We should be able to have the experience any time we are willing to make such a commitment, but we seem to need excuses.

Half doses of psychedelics seldom work. They are more likely to produce restlessness and dysphoria than the reactions we seek. Several times I have been in small groups where one member wanted to take only a half dose. That desire expresses a reluctance to make the necessary commitment: to the group, to the day, to the experience. My advice in that circumstance is to take the drug or not, rather than go it halfway.

Why we should need excuses to put all of our attention in the here and now is a matter for speculation. I am sure we can learn to do without the excuses. Whenever I took psychedelics at my house in Virginia, the days were perfect. Often, in my state of peaceful contentment I would dreamily watch clouds form and change. Their constant motion seemed incredible to me; it was as entertaining as watching a fire, more entertaining by far than television. Even more incredible was the realization that clouds do that all the time. The only reason I do not see it more often is that normally I am too impatient to relax and watch. Whenever I can slow down enough, I can see the hypnotic motion of clouds and let myself be entertained. Psychedelics give me an excuse to slow down and not feel guilty about what I think I should be doing. As a result of having that experience, I can sometimes now enjoy it just by doing it, without the drugs. I do not think I could do it if I had not first learned with psychedelics. As aids to learning about being, psychedelics are of great potential value. Not everyone needs them. I know many people who have benefited from them, far more than have been harmed by them. Psychedelic drugs have allowed me to believe impossible things, and I am grateful to them for that.

## A NOTE ON ADVERSE EFFECTS

While we are talking about the uses of psychedelic drugs, it is appropriate to discuss their dangers. The psychedelic voyage does produce some casualties; the question is how many and how serious they are, what causes them, and how to prevent them. This has been a matter of controversy since the 1960s. Drug users sometimes would not confess that they had any problems, because doubts and regrets were supposed to be a sign of rigidity or repression or some other inadmissible personal problem. Antidrug crusaders sometimes would not admit that there was such a thing as a good trip or an insight to be derived from psychedelic drugs.

The most common adverse effect is the bad trip, which takes many forms, from anxiety or panic to a (rare) psychotic state. The worst kind is a fixed intense emotion or distorted thought that can seem like an eternity of hell; for example, remorse, suspicion, delusions of persecution or of being irreversibly insane. Bad trips do not outlast the immediate effect of the drug, and recovery is usually complete. They are not adverse drug reactions in the narrow sense of something completely unintended and unexpected. Even the best trips may have moments of anxiety or depression, and every psychedelic drug user knows that eventually he may have a trip dominated by painful or frightening feelings: they are hardly more avoidable than fear when climbing a mountain or pain when running a marathon. Bad trips are sometimes regarded as more valuable than good ones, on the ground that they teach the drug taker more about himself; the suffering has the virtue of not seeming meaningless. In one study of LSD users, 24 percent of the subjects had had what they considered bad trips, and 50 percent considered the bad trips beneficial (McGlothlin & Arnold, 1971, p. 47).

Prolonged adverse reactions to psychedelic drugs are just as varied in form as bad trips, and defy diagnostic classification just as much. In fact, one way of looking at them is as prolonged, more or less attenuated, or more or less intermittent bad trips. As the defenses of the ego are altered, repressed feelings and memories rise into consciousness, and they may create enough anxiety to disrupt the organization of the mind. Almost always, the defenses are reconstituted when the drug's influence wears off; but if the drug user's personality is unstable or the situation unsuitable—if the set and setting are wrong—the disorganization may persist or return under stress, as a kind of continuation of the unfinished psychedelic experience. The result is a great variety of altered mental states, from a mild recurrence of some drug-induced perceptual change to depersonalization or outright psychosis.

By far the most common of these altered states is the spontaneous recurrence or flashback. By the broadest definition, a flashback is the transitory recurrence of emotions and perceptions originally experienced while under the influence of a psychedelic drug. It can last seconds or hours; it can mimic any of the myriad aspects of a trip; and it can be blissful, interesting, annoying, or frightening. Ordinarily they are only slightly disturbing, especially since the drug user usually recognizes them for what they are; they may even be regarded light-heartedly as "free trips." Occasionally they last longer, and in a small minority of cases they turn into repeated frightening images or thoughts. Usually they quickly decrease in number and intensity. Flashbacks are most likely to occur

under emotional stress or at a time of altered ego functioning; they are often induced by conditions like fatigue, drunkenness, marihuana intoxication, and even meditative states. Marihuana smoking is probably the most common single source of flashbacks.

On a broad definition, flashbacks are very common. According to some studies, as many as a quarter of psychedelic drug users have experienced some form of flashback; about half consider them frightening and half consider them pleasant (Naditch & Fenwick, 1977). If the term is defined more narrowly for clinical purposes as "repeated intrusions of frightening images in spite of volitional efforts to avoid them," it seems that about 5 percent of habitual psychedelic drug users have experienced them (McGlothlin, 1974, p. 27).

Other prolonged adverse reactions are much rarer. They have been classified as chronic anxiety reactions, depressive reactions, and psychoses. One study describes 16 hospitalized patients who suffered from "philosophical delusions," intense visual hallucinations, and what the authors call a striking variety of affective and neurotic symptoms; often they had at least partial insight into the nature of their problems. Many of them received electroconvulsive therapy, and the average hospital stay was five and one-half weeks (Dewhurst & Hatrick, 1972).

The following is an example of a chronic anxiety state produced by LSD:

After much persuasion by his friends a twenty-year-old university student took 150 micrograms of LSD. It was an "interesting but disturbing time." Thereafter it became very difficult for him to study or concentrate, and he decided to drop out of school. He was unable to continue his part-time job as a stock clerk. There were strong feelings of the meaninglessness of life and he said that he was "philosophically confused." Some days he felt normal again for a few hours, but then the strange, moving, compressing walls and time standing still made him fear he was going crazy. He had occasional thoughts of self-destruction. He would become very upset and panicky, break out into a sweat and sometimes freeze in terror. With considerable support, strong reassurance and tranquilizer therapy, the condition subsided six months after the LSD session (Cohen, 1970 [1965], p. 92).

Because of inadequate reporting and problems in interpreting symptoms and causes, it is hard to tell how common adverse reactions are. At Bellevue Hospital in New York from early 1965 to 1967, 200 patients appeared with complaints related to LSD—mostly panic reactions and flashbacks (Frosch, 1969). By 1969 Bellevue was seeing only one LSD reaction every 2 weeks, and most of these were thought to be borderline schizophrenics in whom the drug had precipitated a psychosis (Stern & Robbins, 1969). A 1971 Canadian government survey of the hospital records of 22,885 psychiatric patients found 67 cases (0.3 percent) where LSD was mentioned as a factor in the primary diagnosis; most of these patients had used many drugs, and the precise influence of LSD was often unclear (Final Report, 1973, p. 378).

A questionnaire survey by J. Thomas Ungerleider and his colleagues suggests a much larger number of adverse reactions. The period covered was July 1, 1966 to January 1, 1968, and the questionnaire was sent to 2,700 physicians, psychiatrists, psychologists, and other health professionals in Los Angeles County. Of the 1,584 who replied, 27 percent

(including 47 percent of the psychiatrists) had seen adverse reactions to LSD; the total number of adverse reactions was 8,958 (Ungerleider et al., 1968). Unfortunately, the definition of adverse reaction was left to the respondents, and the effect, the authors suggest, was probably to define anything that made a drug user seek professional help as an adverse reaction. The prevailing social attitudes have to be taken into account; for example, it is suspicious that in the same survey 1,887 adverse reactions to marihuana were reported. Many of the "adverse reactions" may have been nothing more than difficult moments during drug trips that were mentioned in psychiatric interviews because they seemed relevant to the problem under discussion; some may have been simply drug-induced insights that made people believe they needed help.

Serious adverse reactions to psychedelic drugs are rare today, partly because they are being used more carefully and at smaller doses than in the first flush of psychedelic enthusiasm, and partly because LSD is no longer being unofficially promoted as a solution for emotional crises in the lives of seriously disturbed people. The most likely candidate for adverse reactions are schizoid and prepsychotic personalities with a barely stable ego balance and a great deal of anxiety, who cannot cope with the perceptual changes, body-image distortions, and symbolic unconscious material produced by the drug. Murray Naditch has found through questionnaires that adverse reactions to LSD and marihuana (defined essentially as bad trips—strong unpleasant feelings, panic, fear of insanity or death, thoughts of suicide) are associated with high scores on psychological test scales representing schizophrenic tendencies, social maladjustment, and regression (Naditch 1975). L.J. Hekimian and Samuel Gershon examined 47 patients admitted to Bellevue Hospital between January and July 1967 after using a psychedelic drug in the preceding 48 hours. In 31 cases psychotic conditions already present were intensified. Ultimately 32 were diagnosed as schizophrenic, 4 as schizoid, 6 as sociopaths, and 5 as depressive or neurotic. The authors were struck by the frequency of pre-existing schizophrenia (Hekimian & Gershon, 1968).

It is certainly impossible to assume that anyone who suffers from psychosis, depression, or chronic anxiety after using a psychedelic drug would always have had the same problems in any case, but it is also wrong to suppose that these problems are likely to descend suddenly at any moment on a reasonably stable person who takes a psychedelic drug in a reasonably protected setting. The best analogy for adverse psychedelic drug reactions is psychosis precipitated by cannabis. The egos of a few people are so fragile that they can be precipitated into psychosis by any severe stress or alteration in consciousness, including surgery, an automobile accident, or alcohol intoxication; it is they who will suffer the rare psychotic reactions to cannabis. LSD and drugs like it are much more powerful mind-modifiers, and more people are vulnerable to their disruptive effects, including a few with no strong previous signs of emotional disturbance. Psychedelic drugs are capable of magnifying and bringing into consciousness almost any internal conflict, so there is no typical prolonged adverse reaction to LSD in the sense in which there is, say, a typical amphetamine psychosis (always paranoid). Instead, as many different affective, neurotic, and psychotic symptoms may appear as there are individual forms of vulnerability. This makes it hard to distinguish between LSD reactions and unrelated

pathology, especially when some time passes between the drug trip and the onset of the disturbance.

The best treatment for a bad trip is reassurance and "talking down" in a quiet, friendly setting; that is the way thousands have been handled with or without intervention by psychiatrists. Sometimes this reassurance may take the form of urging the drug user to go with it, give up resistance and allow loss of control, dissolution of the ego, and a cathartic resolution. Interpreting, judging, discussing, and being "objective" are disastrous; asking questions almost always exacerbates the problem by making impossible demands on the drug taker. Anything that might cause suspicion and paranoia, like superfluous movements or conversations, should be avoided. Use of a tranquilizer or sedative should be only a last resort, after talking down fails; diazepam (Valium) is better than antipsychotic drugs like chlorpromazine (Thorazine), which act too abruptly and intensely. The appropriate treatment for prolonged reactions to psychedelic drugs is the same as the treatment for similar symptoms not produced by drugs: psychotherapy and drugs where necessary.

The most important fact about chronic or long-term psychedelic drug use is that there is very little of it. Psychedelic drugs produce no psychological compulsion or craving and certainly no physical addiction. A drug that takes people into a different stretch of unfamiliar mental territory for 8 hours every time they use it is not for every day or even every weekend. Drug users soon come to understand that psychedelic trips are not to be embarked on lightly, and they tend to stop using LSD or cut down their consumption greatly after a short time.

Nevertheless, for a few people in the late sixties and early seventies, LSD use became what H.S. Becker has called a "master trait." This kind of chronic user was known as an acidhead or acid freak, and a not very flattering composite portrait can be drawn from journalism, psychiatric papers, and other sources. He speaks softly and his manner is meek; he is passive and unwilling to take initiative. He talks a great deal about love but fears genuine intimacy and often feels emotionally lifeless. He is easily shattered by aggression or argument, finds the "hassles" of daily life an ordeal, and prefers to live in a world of drug-induced fantasy. He finds it difficult to follow an argument or concentrate on a thought; he is given to superstitious beliefs and magical practices. He does not work regularly or go to school; he rejects the accepted social forms and proselytized for LSD as a means of liberation from the standard "ego games" that constitute most people's lives; he blames society for his troubles and tends to see himself as a martyr. On the other hand, he is often at least superficially open, friendly, warm, relaxed, and uncompetitive; he is childlike as well as childish, and people often like him and feel protective toward him. But he may express aggression indirectly through his unconventional dress and manner, by absent-minded inconsiderateness, or by resentment of challenges to his unjustified conviction of superior awareness and moral insight.

Even if no one fits this stereotype perfectly and most psychedelic drug users do not fit it at all, it does seem to have some basis in reality. K.H. Blacker and his colleagues, using a control group for comparison, studied 21 volunteer subjects who had used LSD 15 to 300 times (average 65 times), and found some of the features of the stereotypical acidhead:

openness and relaxation, likeableness, passivity and introversion, occult and magical beliefs, hippie dress and hair styles. Four said they had memory blanks and sometimes found it difficult to organize thoughts and form sentences.

On the electroencephelogram (EEG), which records brain waves, they did not have an unusually high rate of abnormalities; but they did show significantly more energy in all frequency bands than normal control subjects and psychiatric patients, and this suggested lower than usual levels of anxiety. On tests of intellectual capacity and auditory evoked response (both usually sensitive to the disorganization produced by schizophrenia) the LSD users were normal. But they were extraordinarily sensitive to visual stimuli of low intensity, which confirmed their opinion that they could observe gestures, postures, and shades of color better than most people. They also seemed to modulate and organize sensory stimuli in an unusual way, since there was no relationship between their evoked visual responses and their subjective tactile ones. The authors describe these subjects as eccentric or childlike but not schizophrenic or otherwise pathologically impaired. They emphasize that it was hard to separate the effects of the drug from those of personality and social climate.

Psychedelic drug users have also been tested for organic brain damage. William McGlothlin and his colleagues (McGlothlin et al., 1969) compared 16 subjects who had taken LSD 20 times or more (the range was 20 to 1,100, the median was 75 times) with 16 controls; they examined the subjects clinically and also administered the Halstead-Reitan test battery. There were no clinical organic symptoms, and no scores on the neuropsychological tests that suggested brain damage; but on a test measuring capacity for nonverbal abstraction the LSD users scored lower. As in the case of Tucker's Rorschach results, the amount of LSD was not related to the score. Nevertheless, the authors conclude that continual heavy use may cause minor organic brain pathology: six of the LSD subjects, including the three heaviest users, were regarded as "moderately suspicious" in this respect. In another study, Morgan Wright and Terrence P. Hogan (1972) found no difference between subjects who had used LSD an average of 29 times and controls (matched for age, sex, education, and IQ) on a variety of neuropsychological tests, including the ones used by McGlothlin. At most, these studies confirm the existence of an eccentric acidhead personality; they do not clearly imply mental illness or brain damage.

In considering long-term psychedelic drug use, even more than in assessing acute reactions, it is hard to extricate the pharmacological contribution from the complex web of associations tying it to personality and social setting. The limitations of retrospective studies are notorious, but that is all we have. How many long-term psychedelic drug users ever were really acidheads, and how permanent is the condition? How often is psychopathology associated with psychedelic drug use, and when it is, is the drug cause, symptom, or attempted cure? In this case there is also a potential for cultural bias that creates further complications. When are eccentric beliefs and behavior pathological, and when are they simply a hippie way of life? Now that some of the social views and personal styles of the drug culture of the 1960s have become more popular, we know that they never implied a drug-induced personality change.

Obviously many heavy drug users are seriously disturbed people, but the drug use is usually a symptom more than a cause of the trouble. If emotional problems were *always* a cause and not an effect of chronic psychedelic drug use, the status of acidhead would be nothing but a refuge or role-disguise for certain schizoid or inadequate personalities. But sometimes drug abuse itself, whatever the original reasons for it, becomes the central problem, notoriously so when the drug is addictive, like alcohol or heroin. The same thing may happen with LSD, but that has been rare since the 1960s and was not common even then. The best model for understanding the changes in behavior that occur after psychedelic drug use is not a drug-induced personality change or modification of the brain but the changes in one's views of self and world after a voyage to a strange country.

A note on genetic damage and birth defects has to be added, because misconceptions about this subject still exist. Chromosome damage from LSD was first reported by Maimon Cohen and his colleagues in *Science* in 1967 (Cohen & Marmilli, 1967). They found a higher than normal proportion of chromosome breaks in a paranoid schizophrenic patient who had been treated with LSD 15 times, as well as with chlorpromazine and other drugs; they also found that LSD caused chromosome breaks in leukocytes (white blood cells) artificially cultured in the laboratory. In the rather overheated atmosphere of 1967, this paper gained an immediate celebrity and became the basis for a sensationalistic propaganda campaign featuring pictures of deformed children. Some LSD users switched to what they thought was mescaline or psilocybin and in fact was almost always mislabeled LSD or phencyclidine (PCP).

Many other studies of this subject have appeared and continue to appear; it would be impossible and pointless to review them all. The literature review published in *Science* by Norman I. Dishotsky and his colleagues in 1971 established the reassuring conclusions that are now generally accepted. Examining nearly a hundred papers, they found that LSD was a weak mutagen, effective only at very high doses. It was not carcinogenic and did not cause chromosome damage in human beings at normal doses. One study showed that it caused no more chromosome breaks in Laboratory-cultured cells than aspirin. Illicit drug users often had more damaged chromosomes than control subjects; this was attributable not to LSD but to malnutrition, infectious disease, and general ill health as well as possible impurities in street drugs. The few available prospective studies, mostly of psychiatric patients before and after LSD use, showed no chromosome damage. There was no evidence of a high rate of birth defects in children of LSD users (Dishotsky et al., 1971). This paper is well known and adequately covers the research up to 1971; later studies have allayed persisting doubts. There is also no clear evidence that LSD or any other psychedelic drug causes birth defects in the child when it is taken by a pregnant woman. Nevertheless, pregnant women should avoid all drugs, especially in the first three months.

To sum up, then, bad trips and mild flashbacks are common and even expected, but usually considered a nuisance—and occasionally even an opportunity—rather than a danger. More serious but relatively rare problems are recurrent frightening flashbacks, prolonged reactions (usually a few days but sometimes weeks or longer), suicides, and accidents.

Thought and perception changes occur in some chronic users, but it is hard to say when these are immediate drug effects and when they are the result of reflection on the experience; in any case, they are rarely pathological and almost never irreversible. There is no good evidence of organic brain damage or genetic alterations. The dangers are greatest for unstable personalities and in unsupervised settings. The most important limitation on the abuse of these drugs is the absence of a reliable euphoria, which means that people rarely go on using them, as they often go on using stimulants and sedatives, in spite of repeated disasters. Bad trips usually become deterrents before they become dangerous.

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Part Three

# **PSYCHEDELIC DRUGS IN PSYCHIATRY**

Many people remember vaguely that LSD and other psychedelic drugs were once used experimentally in psychiatry, but few realize how much and how long they were used. This was not a quickly rejected and forgotten fad. Between 1950 and the mid-1960s there were more than a thousand clinical papers discussing 40,000 patients, several dozen books, and six international conferences on psychedelic drug therapy. It was recommended for a wide variety of problems including alcoholism, obsessional neurosis, and childhood autism. Almost all publication and most therapeutic practice in this field have come to an end, as much because of legal and financial obstacles as because of a loss of interest. In the last decade only a few scattered articles and books have appeared, most of them based on earlier clinical work. Possibly those two decades of research and clinical practice that took up a considerable part of the careers of many respected psychiatrists should be written off as a mistake that now has only historical interest. But it might be wiser to see whether something can be salvaged from them, and also what the story suggests about the boundaries of psychiatry and the meaning of drug use in psychiatry.

There were two main sources of therapeutic interest. One was the afterglow effect: the belief of some experimental subjects after a single high dose that they were less anxious and depressed, and more tolerant and self-accepting. The other main interest arose from the possibility that therapeutic use could be made of psychedelic regression, abreaction, intense transference, and symbolic drama in psychodynamic psychotherapy. Two types of LSD therapy therefore emerged; one emphasized the mystical or conversion experience and its afterglow, and the other concentrated on exploring the labyrinth of the unconscious in the manner of psychoanalysis. Psychedelic therapy, as the first kind is called, involves the use of a large dose (200 micrograms of LSD or more) in a single session and was thought to be helpful in reforming alcoholics and criminals as well as improving the lives of normal people. The second type, psycholytic (literally mind-loosening) therapy, requires relatively small doses (usually not more than 150 micrograms of LSD) and several or even many sessions; it was used mainly for neurotic and psychosomatic disorders.

The theoretical basis of psychedelic therapy is rather underdeveloped, like that of the religious conversions it resembles or reproduces. The central idea is that of a single overwhelming experience which produces a drastic and permanent change in the way a person sees himself and the world (see Sherwood et al., 1962; Savage et al., 1967; Arendsen-Hein, 1972). It is assumed that if, as is often said, one traumatic event can shape a life, one therapeutic event can reshape it. Psychedelic therapy has an analogue in Abraham Maslow's idea of the peak experience. The drug taker feels somehow allied to or merged with a higher power; he becomes convinced that the self is part of a much larger pattern, and the sense of cleansing, release, and joy makes old woes seem trivial. In his great book on religious experience William James wrote that the drunken consciousness is one bit of the mystical consciousness and religiomania the best cure for dipsomania. One conception of psychedelic therapy for alcoholics is that LSD can truly accomplish the transcendence repeatedly and unsuccessfully sought in drunkenness.

In the psycholytic procedure, developed mainly in Europe, moderate doses of psychedelic drugs are used to aid in psychoanalytically oriented

psychotherapy by uncovering the unconscious roots of neurotic disorders. As many as 100 drug sessions over a period of 2 or more years may be required, although most treatments are much shorter. Patients may be hospitalized or not; they may be asked to concentrate on interpretation of the drug-induced visions, on symbolic psychodrama, on regression with the psychotherapist as a parent surrogate, or on discharge of tension in physical activity. Props like eyeshades, photographs, and objects with symbolic significance are often used. Music plays an important part in many forms of psychedelic drug therapy; detailed recommendations have been made about appropriate music for specific stages of the drug trip (Bonny & Pahnke, 1972). The theoretical basis of this kind of psychotherapy is usually some form of psychoanalysis. If birth experiences are seen as true relivings of the traumatic event, Rank's ideas may be introduced, and if archetypal visions are regarded as genuine manifestations of the collective unconscious, the interpretation will be Jungian. The patient remains intellectually alert and remembers the experience vividly. He also becomes acutely aware of ego defenses like projection, denial, and displacement as he catches himself in the act of creating them; and transference can be greatly intensified. This technique is discussed, with some case histories, in the papers by Jan Bastiaans and Hanscarl Leuner. In practice many combinations, variations, and special applications with some of the features of both psycholytic and psychedelic therapy have evolved; Stanislav Grof's ideas, described in his essay, are an example.

Case histories, however impressive, can always be questioned; placebo effects, spontaneous recovery, and the therapist's and patient's biases in judging improvement must be considered. It would be helpful if we could determine whether LSD is better than other treatments or no treatment in some definite range of cases. But evaluation of psychiatric results is difficult, since there are often too many variables to account for and no universally accepted criteria of improvement. For a methodologically sound evaluation, at the very least the patient's condition must be judged before treatment and for some time afterward, by independent investigators using carefully defined standards.

There should also be a randomly selected control group of patients with similar problems who do not receive the same treatment. When drugs are used, ordinarily a double-blind experiment is essential; this means that neither the therapists nor the patients know whether they are receiving the drug or a placebo. Not many studies satisfy all these conditions; the most serious deficiencies are absence of controls and inadequate follow-up. In the case of LSD there is the special difficulty that a blind study is impossible, since the effects of the drug are unmistakable. As Jan Bastiaans points out in his essay, no form of psychotherapy for neurotics has ever been able to justify itself by these stringent standards; LSD therapy is no exception.

Almost all the interesting experiments are without controls. For example, in 1954 and 1957, R. A. Sandison and his colleagues at Powick Hospital in England issued reports on a series of hospitalized neurotic patients treated with LSD. Of 36 patients in the study, 30 could be reached for follow-up 2 years after treatment; four were described as recovered, eight as greatly improved, seven as moderately improved, and eleven as not improved. A 6-months follow-up for another 93 patients showed 65 percent substantially improved. This two-thirds rate is common in many kinds of

psychotherapy and does not by itself indicate any advantage for LSD. But Sandison and his colleagues point out that these were severe cases who had not been helped by other forms of therapy Sandison et al., 1954; Sandison & Whitelaw, 1957).

In 1964 Einar Geert-Jorgensen and his colleagues studied 129 LSD patients; some had been hospitalized, some were outpatients, and some were in group therapy. Diagnosis, dosage, and number of sessions varied greatly. A follow-up questionnaire answered by patients and their relatives revealed a 55 percent remission rate; this was not remarkably high, but the authors again point out that most of them were severe chronic neurotics who had been able to achieve nothing in long years of previous treatment (Geert-Jorgensen et al., 1964). Hanscarl Leuner reported substantial improvement in about 65 percent of more than 100 chronic neurotics, using an average of 38 LSD sessions per patient (Leuner, 1963; Leuner, 1967).

In 1967 E. Mascher summarized 42 papers on psycholytic therapy written between 1953 and 1965. Of the cases, 68 percent were described as severe. The diagnoses included anxiety neurosis, depressive reaction, borderline personality, obsessive-compulsive neurosis, hysterical conversion syndrome, and alcoholism; the mean length of treatment was 4 ½ months, with 14.5 psychedelic drug sessions. The rate of success (much improved or very much improved) was as high as 70 percent for anxiety neurosis, 62 percent for depressive reactions, and 42 percent for obsessive-compulsive neuroses. Fifteen studies included follow-ups, which took place, on the average, 2 years after treatment. At that time 62 percent of the successful cases were the same or better and 35 percent slightly worse than just after treatment; only a few actually relapsed. Mascher discusses the problem of evaluating the data from this very heterogeneous group of studies; he concludes that the relatively short treatment time and the possibility of handling difficult cases gives psycholytic therapy advantages over the psychoanalytically oriented psychotherapy on which it is modelled (Mascher, 1967).

Controlled studies are few, and these few show little or no advantage for psychedelic drug therapy (Robinson et al., 1963; Savage et al., 1973). But many psychiatrists who have done LSD therapy with neurotics would regard these experiments as far too brief and superficial to provide a genuine test, especially where so much may depend on the quality of the therapeutic relationship. For LSD therapy as in psychoanalysis, psychiatrists tend to favor neurotics with high intelligence, a genuine wish to recover, a strong ego, and stable even if crippling symptoms. Beyond that little is clear. How many sessions are needed? Should the emphasis be on expression of repressed feelings, on working through a transference attachment to the psychiatrist, or elsewhere? What should the psychiatrist do during the drug session? Must the patient be hospitalized? How much therapy is necessary in the intervals between LSD treatments? The fact that there are no general answers to these questions reflects the complexity of psychedelic drug effects; for the same reason a dose and diagnosis cannot be specified in the manner of chemotherapy. It seems that LSD treatment sometimes produces spectacular improvement in neurotic symptoms, yet so far no reliable formula for success has been derived from these results, and the few (admittedly inadequate) controlled studies are disappointing. In all

these respects, of course, LSD therapy is in no better or worse position than most other forms of psychotherapy.

### *Alcoholism*

It is commonly accepted that one overwhelming experience which has the character of a religious revelation occasionally changes the self-destructive drinking habits of a lifetime. Inducing such an experience is the purpose of psychedelic therapy in the treatment of alcoholics. But can psychedelic drugs consistently produce an epiphany with lasting effects? There have been many positive reports in the literature. Albert A. Kurland reports the case of a forty-year-old black unskilled laborer brought to a hospital from jail after drinking uncontrollably for 10 days. He had been alcoholic for 4 years, and his psychological tests showed severe anxiety and depression. During the LSD session, he felt that he was being chased, struck with a sword, run over by a horse, and frightened by a hippopotamus. He said:

I was afraid. I started to run, but something said 'Stop!' When I stopped, everything broke into many pieces. Then I felt as if 10 tons had fallen from my shoulders. I prayed to the Lord. Everything looked better all around me. The rose was beautiful. My children's faces cleared up. I changed my mind from alcohol toward Christ and the rose came back into my life. I pray that this rose will remain in my heart and my family forever. As I sat up and looked in the mirror, I could feel myself growing stronger. I feel now that my family and I are closer than ever before, and I hope that our faith will grow forever and ever.

One week later his score on a questionnaire testing neurotic traits had dropped from the 88th to the 10th percentile. Six months later his psychological tests were within normal limits; he had been totally abstinent during that time, and despite a temporary relapse when he lost his job, he was still sober after 12 months. Kurland points out how important it was that he had a loyal family; he also notes that it would have been difficult to reach this illiterate, culturally deprived man with psychotherapy (Kurland, 1967).

There is no doubt that LSD often produces such powerful effects on alcoholics; the question is whether they can be reliably translated into enduring change. Early studies reported dazzling success: about 50 percent of severe chronic alcoholics treated with a single high dose of LSD recovered and were sober a year or two later (Smith, 1958; MacLean et al., 1961; Kurland et al., 1967). Unfortunately, later research changed the picture. All the early studies had insufficient controls and most lacked objective measures of change, adequate follow-up, and other safeguards (Smart et al., 1967). When patients were randomly assigned to drug and control groups, it proved impossible to demonstrate any advantage for LSD in the treatment of alcoholism. The results have recently led two former advocates of psychedelic therapy, in a review of the literature, to admit that the evidence for it is not strong (McCabe & Hanlon, 1977). Apparently even the most profound and heartfelt resolutions to change—nothing is more deeply felt than an intense LSD experience—have to be regarded with skepticism. The great majority of alcoholics tend to improve after any treatment, since excessive drinking is often sporadic, periodic reforms and relapses com-

mon. At the time the alcoholic arrives at a hospital, he has usually reached a low point in his cycle and has nowhere to go but up.

The two major reviews of the psychiatric literature (Abuzzahab & Anderson, 1971; McCabe & Hanlon, 1977), although suggesting that LSD may be useful as an adjunct for some patients, understandably conclude that it is not a reliable treatment for chronic alcoholism, even when combined with psychotherapy, Alcoholics Anonymous, and other methods. But it would be wrong to conclude that a psychedelic experience can never be a turning point in the life of an alcoholic. Bill Wilson, the founder of Alcoholics Anonymous, declared that his LSD trip resembled the sudden religious illumination that changed his life. Unfortunately, psychedelic experiences have the same weakness as religious conversions. Their authenticity and emotional power are not guarantees against backsliding when the same old frustrations, limitations, and emotional distress have to be faced in everyday life. And when the revelation does seem to have lasting effects, it might always have been merely a symptom of readiness to change rather than a cause.

The fact remains that there is no proven treatment for alcoholism, or for any particular class of alcoholics identifiable in advance. Where so little is known, does it make sense to give up entirely on anything that has even a chance of working sometimes? There is also another issue. Some controlled studies show an improvement lasting from several days to several months; that is, they seem to confirm the reality of the psychedelic afterglow. The obvious recourse of supplementary treatments every once in a while has been suggested but never taken seriously, although the Native American Church peyote ritual is said to serve this purpose for some Indians. The peyote rite seems reasonably safe. No hospitalization or professional attention is required; psychoses, prolonged reactions, and drug dependence are almost never reported (Bergman, 1971). The majority of Americans are permitted to do almost anything in the name of psychotherapy or religion except use disapproved drugs. To grant non-Indian alcoholics in the name of psychotherapy the rights that the courts have given to Indians under the rubric of religious freedom, we would have to modify our social definitions of drug use drastically, and that remains unlikely.

### *Dangers*

The main danger in psychedelic drug therapy is the same as the danger of any deep-probing psychotherapy. If the unconscious material that comes up can be neither accepted and integrated nor totally repressed, symptoms may become worse, and even psychosis or suicide is possible. But the potential for harm has been exaggerated, for two reasons. First, much irrational fear and hostility is left over from the cultural wars of the sixties. More generally, we tend to misconceive drugs as something utterly different from and almost by definition more dangerous than other ways of changing mental processes. The most serious danger is suicide; there are several reports of suicide attempts or actual suicides among patients in psychedelic drug therapy (Savage, 1959; Geert-Jorgensen, 1964). But many people who have worked with psychedelic drugs consider them more likely to prevent suicide than to cause it. Walter Houston Clark and G. Ray Funkhouser asked about this in a questionnaire distributed to 302 professionals who had done psychedelic research and also to 2,230 randomly chosen members of the American Psychiatric Association. Of the 127 answering in the first group, none reported any suicides caused by psy-

chedelic drugs, and 18 thought they had prevented suicide in one or more patients; of the 490 responding in the other groups, one reported a suicide and seven said suicidal tendencies had been checked (Clark & Funkhouser, 1970).

The available surveys suggest that therapeutic use of psychedelic drugs is not particularly dangerous. In 1960 Sidney Cohen made 62 inquiries to psychiatrists and received 44 replies covering 5000 patients and experimental subjects all of whom had taken LSD or mescaline—a total of 25,000 drug sessions. The rate of prolonged psychosis (48 hours or more) was 1.8 per thousand in patients and 0.8 per thousand in experimental subjects; the suicide rate was 0.4 per thousand in patients during and after therapy, and zero in experimental subjects (Cohen, 1960). Other studies have confirmed Cohen's conclusion that psychedelic drugs are relatively safe when used experimentally or therapeutically (see Malleson, 1971; Denson, 1969).

In a 10-year follow-up William H. McGlothlin and David O. Arnold studied 247 subjects who had received LSD either experimentally or therapeutically from three California psychiatrists between 1955 and 1961; 43 percent took it once, 34 percent two to five times, and 16 percent six to twenty times; 23 percent also used it later on their own. Of the 247, 26 reported some harmful effects: 9 said that they had lost some of the structure and discipline in their lives, or some of their competitive and aggressive tendencies, and that this had both advantages and disadvantages. Three thought they had suffered some physical harm (impaired eyesight, numbness in the legs); one thought he had suffered memory loss; one attributed marital problems to LSD use; seven spoke of increased anxiety and depression. Three regarded their drug trip as a horrible experience that left them with a painful memory; two said that they would have been better off without the knowledge that LSD gave them. There was one case of psychosis requiring hospitalization for a week. Most of the subjects regarded the experience as beneficial; 60 had had bad trips at some time; many regarded them in retrospect as useful (McGlothlin & Arnold, 1971).

All these studies have serious limitations. Many psychiatrists may have minimized the dangers out of therapeutic enthusiasm and reluctance to admit mistakes; a few may have exaggerated them under the influence of bad publicity; long-term risks may have been underestimated if follow-up was inadequate. The biggest problem is the absence of a basis for comparison between these patients and others with similar symptoms who were not treated with psychedelic drugs or not treated at all. Even where some information on adverse reactions during psychotherapy is available, we cannot be sure that the backgrounds and diagnoses of the patients are comparable. The rate of suicide in LSD therapy, for example, is apparently lower than the rate in psychiatric patients as a group, but possibly few patients with suicidal tendencies were given LSD. To repeat, however: psychedelic drugs were used for more than 15 years by hundreds of competent psychiatrists who considered them reasonably safe as therapeutic agents.

When a new kind of therapy is introduced, especially a new psychoactive drug, events follow a common pattern. At the beginning, there is spectacular success, enormous enthusiasm, and a conviction that it is the answer to a wide variety of psychiatric problems. Then the shortcomings of the early work become clear: insufficient follow-up, absence of controls, inadequate methods of measuring change. More careful studies prove disappointing, and the early anecdotes and case histories begin to seem less

impressive. But the rise and decline of LSD took an unusual course. In 1960, 10 years after it was introduced into psychiatry, its therapeutic prospects were still considered fair and the dangers slight. Then the debate received an infusion of irrational passion from the psychedelic crusaders and their enemies. The revolutionary proclamations and religious fervor of the nonmedical advocates of LSD began to evoke hostile incredulity rather than simply natural skepticism about extravagant therapeutic claims backed mainly by intense subjective experiences. Twenty years after its introduction it was scorned by the medical establishment and banned by the law. In 1974 a Research Task Force of the National Institute of Mental Health reported that there were no therapeutic uses for LSD. Today psychedelic drugs cannot be used in clinical practice but only in research, and only under a special license from the federal government. A few institutions still have the necessary licenses, but lack of money, restrictive rules, and public and professional hostility have made it almost impossible to continue the work. The situation in other countries is similar. In rejecting the absurd notion that psychedelic drugs are a panacea, we have chosen to treat them as entirely worthless and extraordinarily dangerous. Maybe the time has come to find an intermediate position.

Even the advocates of psychedelic drug use have become much more modest in their claims for its therapeutic virtues. Few now believe in immediate personality change after a single dose. The trend has been away from reckless enthusiasm toward caution, away from quick cures toward long-term therapy. Many now see psychedelic drugs as difficult to work with, emotionally exhausting for both patients and therapists, requiring much preparation and follow-up, and effective only in a restricted range of cases. They are no longer regarded as the main solution to any large problem like alcoholism. Nevertheless, psychedelic drug therapy did not die a natural death from loss of interest; it was killed by law. Even though many of the researchers who devoted a large part of their careers to psychedelic drugs have retired or died, and many more now ignore them entirely, there are still others who would like to use the drugs if they could.

No one who has studied the matter closely doubts the reality of psychedelic peak experiences, the capacity of psychedelic drugs to open up the unconscious, or the conviction of some who take them that they are gaining insight. Whether these can be put to any use is another matter. One of the best opportunities, as we have mentioned, is presented by the afterglow that may last as little as a day or as long as several months. If therapeutic research becomes possible again, it might be good to begin with the dying, since in this case only short-term effects have to be considered. Psychedelic drugs might also be used to get past blocked situations in ordinary psychotherapy, to help a patient decide whether he or she wants to go through the sometimes painful process of psychotherapy, or to help a psychiatrist decide whether the patient can benefit from the kind of insight that psychotherapy provides. In addition, MDA, harmaline, ketamine, nitrous oxide, and other psychedelic drugs with unique effects still need to be evaluated.

A persistent misunderstanding about psychedelic drug therapy creates special problems. It is felt that using these drugs means practicing a form of chemotherapy, like giving lithium to manic patients or chlorpromazine to schizophrenics: applying a chemical compound for specific, more or less uniform effect on a disturbed mind. It is not easy, especially in our society, to avoid thinking this way, and yet it is entirely misleading. The severe

mental illnesses that respond to chemical management are usually unaffected by LSD. Psychedelic drugs are used not as chemotherapy but to attain self-knowledge in a way that both resembles and allegedly intensifies the effects of other insight therapies like psychoanalysis, religious disciplines, and the forms of psychiatry collectively referred to as the human potential movement. (Shamans make this point metaphorically by saying that they use psychedelic plants not as a cure but as a means to pass messages to and from the spirit world where illness is produced.) As a Mexican Indian told a newspaper reporter who referred to peyote as a drug, "Aspirin is a drug, peyote is sacred." (Furst, 1976, p. 112.) Here psychotherapy borders on education as well as religion, and the Huichols accordingly say that peyote teaches. The emotional intensity of psychedelic drug therapy also has a counterpart in techniques like primal therapy, neo-Reichian or bioenergetic therapy, and encounter groups.

Thus, neither the virtues nor the dangers of this method are those of ordinary drug therapies. Patients are not maintained over a long period of time on LSD as they are on tranquilizers or antidepressants. The psychiatric use of LSD has produced nothing that can properly be described as a toxic overdose, and nothing remotely resembling drug dependence or drug addiction. On the other hand, the claims of psychedelic drug therapy are subject to all the same doubts as those of psychoanalysis or religious conversions: the impossibility of finding clear indications or suitable control groups when so much depends on the therapist's capabilities and training and the readiness of the individual patient; the difficulty of proving that the psychiatrist or guru and his patient or disciple are not deceiving themselves and each other; the danger of putting the patient in thrall to a charismatic authority or promoting illusory insight. The evidence for psychedelic drug therapy is poor by comparison with the evidence for treatments like lithium or chlorpromazine; it is fairly good by comparison with the evidence for other forms of insight therapy. But no one contemplates making these illegal, like a pill for which there is no proof of effectiveness.

The mixture of mystical and transcendental with therapeutic claims is another aspect of psychedelic drug therapy that troubles a society of irreligious or tepidly religious individualists. The pronouncements of drug enthusiasts are sometimes too much like religious testimonials to please either psychiatrists or priests and ministers. Pre-industrial cultures seem to tolerate more ambiguity about whether a medical treatment or a spiritual rebirth is being offered. But attitudes may be changing. There is a growing literature on the ideas and techniques shared by primitive shamans, Eastern spiritual teachers, and modern psychiatrists: the use of suggestion, confession, catharsis, reassurance, and relaxation; the effort to reinterpret the patient's or disciple's condition by articulating confused states of mind into a system and naming a cause; the necessity of creating confidence in the therapist or expectant faith; the emphasis on the healing powers of community; and often the induction of altered states of consciousness. Most of these methods are employed in both psychiatry and religion; they remind us that the word "cure" means both treatment for disease and the care of souls, and that all psychotherapy relying on insight in some ways resembles a conversion. That is why Jung compared psychoanalysis to an initiation rite.

Psychedelic drug therapy inherits this ambiguity from its shamanistic origins. The drug can be seen as a means of passage to the inmost self, the

collective unconscious, or the transpersonal realm; the voyage can be lived in Dante's terms or Freud's. Psychedelic therapy resembles a religious rite of rebirth; psycholytic therapy can be likened to a purgatorial travail as well as to psychoanalysis. And some drug users have gone "beyond LSD," but along the same road, by turning to the arduous disciplines of Zen and Tibetan Buddhism.

The role of the guide on a psychedelic drug trip partakes of this ambiguity. This social role is spontaneously reproduced in all cultures where psychedelic drugs come to be used. Just as the shaman undergoes an initiatory crisis and the psychoanalyst is psychoanalyzed, the guide trains by taking psychedelic voyages. He or she is a successor to the shaman or road man and may also be a friend, a psychotherapist, a physician, and at moments of intense transference a mother or father or some other charged symbolic figure. Since all this emotional intensity and all these manifold meanings are concentrated in the role, it is not surprising that much of the political controversy of the sixties was in effect about who was truly qualified to be a guide and how those qualifications should be established. For the moment we have made the curious and peculiarly self-disparaging decision that no one is qualified—that no one in modern industrial society should be allowed to do what a Plains Indian road man or a Mazatec *curandera* does.

It would simplify matters if we could be sure that those interested in psychedelic drug therapy are deceiving themselves, but we do not know enough about what works in psychotherapy to say anything like that. No panacea will be discovered here any more than in psychoanalysis or religious conversions. Nevertheless, the field may have potentialities that are not being allowed to reveal themselves. So we think it is worth listening to opinions like those presented in the essays in this volume, even though they are held by a small and diminishing minority of psychiatrists.

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## **MENTAL LIBERATION FACILITATED BY THE USE OF HALLUCINOGENIC DRUGS**

**Jan Bastiaans**

### *General Remarks on Mental Freedom*

By his nature man feels a need for freedom. Between total freedom and the total absence of it there are numerous levels of restraint experienced with or without acceptance. A mentally and physically healthy individual normally feels free, but not every human being has this privilege. A young child often experiences constraints on its freedom which can have a determining influence on its life. Deprivation of freedom at a later stage of life, if sufficiently protracted and severe, can also have permanent effects. Those who have once been deprived of freedom continue to live in fear that it might happen again. They may seek protection by assuming a role which deprives others of freedom.

The experience of being threatened and having one's freedom violated also produces mental isolation. The individual consciously or unconsciously locks himself into mental invulnerability-structures of a psychotic, psychoneurotic or psychosomatic nature. This kind of isolation is found in autism, narcissism, character neuroses, depersonalization, and psychosomatic character formation. The patient becomes isolated from his emotions by an excessive use of self-restraint. The loss of freedom in these patients is caused mainly by traumatic events or unresolved conflicts from early childhood or a later period in life. Psychotherapy should focus on liberating the patient from his mental entrenchment and helping him find his way back to freedom.

### *Experiences with Psychotherapy Facilitated by Hallucinogenic Drugs*

My interest in hallucinogenic drug therapy was aroused during the years when I was a director of the National Psychoanalytic Institute in Amsterdam, 1954-1963. Three major factors entered:

1) My contact with war victims, including former prisoners of war and concentration camp inmates. Many of these people were severely traumatized. Facilities for adequate treatment were scarce, and only a few psychiatrists had developed the competence to treat this type of patient properly. The results of hypnoanalysis, narcoanalysis and regular psychoanalytic treatment were disappointing, if only in the long run.

2) My participation in the work of a psychosomatic research team at the University of Amsterdam during the years 1946-1954. During this period I became impressed with the mental isolation experienced by psychosomatic patients. Nearly all the psychotherapeutic techniques used with this group of patients had the common objective of opening the doors of expression and facilitating normal human contacts at the verbal as well as the nonverbal level. I also saw that many war victims suffered from psychosomatic diseases linked to their problems in adapting to postwar conditions.

3) The start of a long-term research program on *Prognosis and Effect of Psychoanalysis and Psychotherapy* by the staff of the Amsterdam Psychoanalytic Institute in 1964. Of the Institute's inpatients, 300 were put through objective tests based primarily on Eysenck's research. These patients were treated with various psychotherapeutic methods, and then tested again after periods of 2, 5, and 7 years. Although predicted shifts in personality functioning could be observed, we were disappointed to find that they did not reach the level of statistical significance. Among people for whom an adequate form of psychotherapy could not be found and among those still on the waiting list for treatment, comparable changes in neuroticism, sociability, intelligence and socio-cultural parameters such as social status, income, marriage, and career were observed.

The result of this ambitious research showed that the efficacy of psychotherapy is difficult to prove. As head of the research team, I concluded that much more attention should be paid to factors determining so-called resistance to change. Although much was known about the psychoanalytic technique for treating severe character neuroses, traditional psychoanalysis still required too much time. Having obtained much experience with narcoanalytic treatment of war victims, I decided to speed up the therapeutic process by the use of hallucinogenic drugs; but this time my goal included more than just catharsis.

Perusal of the literature convinced me that much of the resistance to this form of therapy had been caused by the risk of a so-called "bad trip." I thought that such adverse reactions could be avoided by proper conduct of the sessions, and I found further evidence for this in patients admitted to psychiatric hospitals for LSD psychosis. By treating them with LSD-25, I could often neutralize the consequences of the original bad trip and eliminate the psychosis.

In 1969 I presented a paper to the British Psychoanalytic Association in which I discussed the treatment of 36 patients at Leyden University in the period 1964-1968. Of these, 9 had improved considerably after an average of 5 LSD sessions, each lasting from 3 to 4 hours. There was visible improvement in 14 cases and no improvement in 11 cases. Two patients suffering from severe neurotic depressions became worse; it became clear that chronic depressive neurosis was not susceptible to LSD treatment,

since a relapse generally occurred after a brief period of improvement. It also became clear that young people with passive personalities are not the right candidates for LSD treatment, although they often ask for it. I concluded that LSD treatment is most promising for the following three categories of patients:

1. Psychosomatic patients with intensely rigid defenses and coping mechanisms.
2. Patients suffering from survivor or concentration camp syndromes produced by their war experiences.
3. Patients for whom many years of psychoanalysis have not produced the prognosticated positive results.

The best candidates are "inhibited fighters"—persons with rich and intense life experiences who have been traumatized psychically. Treatment was most effective when it started within a few years after the traumatizing events took place. These patients often find it impossible to express their emotions. Rigid psychoneurotic and psychosomatic patients who have become silent or mutistic because of severe traumatic events often say: "I cannot tell you what I went through. You would not understand because you did not go through it yourself." But I found that during LSD treatment they were quite capable of expressing what they had gone through.

Since 1961 I have treated over 300 patients with hallucinogenic drugs, mainly at Leyden University, where I became Chairman of the Department of Psychiatry in 1963. These include inpatients as well as outpatients. The latter are hospitalized for a limited number of days, and otherwise placed on an ambulatory treatment scheme with regular, but brief, sessions of psychotherapy and analysis in the intervening periods. Authorities in the Netherlands prohibited the general medical use of hallucinogenic drugs in 1967, and only a few psychiatrists obtained an official license to use them in research. It has still not been demonstrated that hallucinogenic drugs when applied therapeutically give rise to lasting pathological complications, but at present I am the only medical researcher in the Netherlands who is permitted by the Ministry of Health to continue this work.

In the period 1969-1979 I treated 200 patients in psycholytic therapy, predominantly with LSD-25, partially with psilocybin. The average number of sessions was 6 to 7, and the average duration of a session was 4 hours. This low number of sessions was possible because in the intervals the patients were obliged to listen carefully and repeatedly to tape-recordings of the sessions. In addition, twice a week their experiences were worked through in normal psychoanalytically oriented interviews. Only in a few cases was the number of sessions higher than 7; one case required 28 sessions. The patients belonged predominantly to the three groups mentioned above. The most impressive results were obtained in survivors of jails and concentration camps and in those whose childhood situation was a kind of private concentration camp; this is common in patients suffering from severe compulsive neurosis or psychosomatic disease, e.g. asthma, eczema, rheumatic disease, or hypertensive disease.

The average number of hours spent in sessions and interviews by the therapist was 50, far lower than the number needed for regular psychoanalytic treatment (in Holland usually 600-800 hours). In some cases in which psychoanalysis had become interminable, the psychotherapeutic process could be facilitated by combining psychoanalytic with psycholytic therapy.

#### *Four Case Histories*

*Case 1.* In 1970 a twenty-one-year-old saleswoman suffering from severe atopic dermatitis was referred to the author by a dermatologist for psychotherapy. She was very nervous and very neurotic.

The dermatitis had lasted for nearly 20 years, and she had been treated in many hospitals. She had all the character defenses described in the literature as specific to patients suffering from psychogenic eczema. The patient was very active in her job as an assistant to her father, who owned a bakery. In her personal contacts she was oversensitive and vulnerable and somewhat insensitive to the normal signals of mature interpersonal contact.

The treatment started with regular psychoanalytically oriented psychotherapy. After a few months it became clear that she could not properly express her deeper emotional experiences. Many traumatic experiences of her childhood were repressed, and during her first LSD sessions she relived dramatically the main trauma: being left alone by her parents who were nearly always working in the bakery. She was the youngest of three children, and the other children had dominated her in an unfriendly manner when the parents were absent. Intense separation anxieties came to the fore, especially those related to early stays in hospitals where she was treated for eczema with the traditional methods of wound-dressing and gauze bandages which painfully restricted her movements. She relived the early pains and the inability to move her hands and legs. These experiences had disturbed the normal sensations of interpersonal contact and during the sessions the therapist's touch on her fingers opened up a world of contact for her. It became for her the symbol of what human contact could really be. She became aware of what she had missed and how this had produced an intense inferiority complex masked by neurotic overactivity which functioned as a defense against feared passivity and symbiotic pleasure.

After the first sessions the eczema disappeared entirely, but now the psychoneurotic and hysterical nucleus of her personality required continued guidance and more or less "normal" psychotherapy. The therapy came to an end when the insurance company stopped paying the expenses. Although she herself could easily have afforded the therapy, she rejected the therapist, whom she now considered to be a strict father for whom she had to work.

After this form of allowed acting out had continued for more than 2 years, she returned timidly asking indirectly for continuation of the therapy. Some years later she was able to marry. At present she is functioning well and seems to have overcome all the inhibitions and unpleasant emotions of her early childhood. The psychosomatic symptoms of eczema and self-mutilation never reappeared.

*Case II.* This twenty-nine-year-old married woman had suffered from asthma since the age of three. In 1976 she was referred to the author by one of the psychologists at an asthma hospital in Holland. A few years before, she had spent many months in a Swiss asthma sanatorium, where she underwent treatment without showing any improvement. Her marriage was unhappy, and she was unable to manage her two young children. LSD therapy was indicated because she had rigid character defenses and non-directive psychotherapy could not help her sufficiently. During the first session, she constantly cried for help.

It became clear that she was fixated on a traumatic childhood period when she was three to five years old. In this period a younger brother was born and she felt rejected by her mother; she also felt dominated by an elder brother who was very unkind to her. She was unable to express feelings of hate and jealousy, and whenever these feelings came to the fore she would yell that she was going to suffocate. The therapist was not allowed to speak about her parents in an unfriendly manner. In the course of the session feelings of grandeur became manifest; she wanted to be a queen with many slaves. She remembered that from time to time her parents had quarreled and that she had watched these quarrels in great panic. Possibly she had also witnessed parental sexual intercourse and interpreted it as a quarrel. When these memories were relived she had feelings of suffocation and closed her eyes to inhibit vision.

From early research by French and Alexander we knew that these inhibitions are more or less specific to asthmatics. We allowed her to enact her childhood situations as a psychodrama, and during this enactment she yelled constantly and cried impressively for help. Later she became furious, feeling restrained and oppressed by her family or by the therapist and his assistant. At the beginning of the therapy she had stated that she did not know what jealousy was; at the end she was able to admit how jealous she had been for many years.

The troubles in her marriage were produced largely by her feeling that her husband did not allow her enough freedom. After three LSD sessions over a period of 2 months, the asthma disappeared almost entirely. In the following months she wanted a divorce. Marriage counselling was given, and divorce was avoided. One year later a third child was born and the marriage now seems to be a happy one. There has been no relapse of asthma.

*Case III.* The third case is that of a fifty-two-year-old married man who suffered from intractable malignant hypertension (260/165 mmHg). He had been treated unsuccessfully in various departments of internal medicine. During the war he had been deported to Buchenwald concentration camp, where he more or less saved his life by working in a dissection room where he had to make lampshades of human skins. He continued this work in a state of chronic depersonalization. During LSD therapy he relived his horrible camp experiences and was able to express feelings of guilt about what he had been required to do in the camp. His ability to express these feelings led to a remarkable reduction of his blood pressure after the first session. In subsequent sessions he regressed to

childhood. He saw the therapist as a good father and for the first time in his life felt that his father understood what he had gone through in the camp and in his very unhappy childhood. Ten weeks after the start of the treatment, and after three LSD sessions, his blood pressure was normal. Later, it was also necessary to give marriage counselling, since his wife and children had suffered a great deal from his tension and masked psychopathic behavior at home.

Six years later his wife committed suicide. Once again he was admitted to a department of internal medicine. At that time his blood pressure, which had been normal for many years, was abnormally high again because of his guilt about the death of his wife, which he felt had in part been caused by his behavior towards her in the earlier postwar years. This time the blood pressure could be kept under control with the aid of normal psychotherapy in which we discussed these feelings of guilt freely.

*Case IV.* In 1977 a sixty-one-year-old Dutch Army officer was admitted to the Leyden Department of Psychiatry in a state of chronic depression with suicidal tendencies and alcoholism. During the war, the Japanese had decapitated some of his comrades before his eyes. He survived the horrors of prisoner of war camps in Burma and Japan, and later he fought again in Indonesia during the independence war. After his return to Holland he went through two marriages, which were unhappy because of his too strict behavior and inability to experience affective contact. These inhibitions finally drove him into premature retirement.

During the first LSD sessions all the horror of wartime were relived, but his behavior did not change afterward. He could not experience a feeling of relaxation. In the fourth session he suddenly remembered that on his third birthday he had received a special postcard picturing a Chinese man with a sword stuck into his neck and blood pouring out of it. His parents did not say a word about it and apparently did not understand what the son had felt at that moment. What he had gone through in the Japanese camps was the realization of his nightmares related to the postcard scene.

After this session his behavior began to change. The nurses and the other patients noticed that he was becoming more friendly. In later sessions he regressed to very early patterns of behavior, lying on the floor and crying for his parents, who had been very strict and cool. In the confrontation with a new father and a new mother in the transference relationship, he could experience psychodramatically a kind of rebirth in a well-protected environment. This finally produced a striking improvement in his behavior. His depression disappeared, and with a new woman friend he continued his life under much better circumstances than before. He was even able to help others in acute emergency situations.

### *Specific Difficulties in the Treatment of Severely Traumatized Patients*

After years of experience in treating severely traumatized patients, such as war victims, victims of terrorist acts and other victims of man-made disasters, I have concluded that most psychiatrists and psychotherapists do not know how to handle these therapeutic situations and the related transference problems. Careful analysis reveals the following points:

### 7. *The Essence of the War Experience*

Many therapists, especially those who have never had any war experience, find it difficult to identify themselves with the victims. Many war victims use the defense of saying, "You cannot understand me if you have not gone through it yourself." This defense can only be handled in the transference relationship if empathy on the part of the therapist is sufficient.

### 2. *The Rigid Mental Fixation of the Victims on the Most Traumatic Period of Their Life*

Most of the victims are fixated on the most painful experiences of the war: being tortured, being beaten, being confronted with torture of comrades and friends, and so on. During these horrible experiences the victims could seldom cry; they had to repress their emotions and continue life in a state of hopelessness, helplessness, and chronic depersonalization.

### 3. *The Functional Alexithymia of the Victim*

The modern concept of alexithymia—inability to express emotions in words—is very useful to describe the inability of the victims to convey what they have gone through in wartime. Some victims become alexithymic as a result of brain damage, but for the majority alexithymia is psychogenic.

### 4. *The Rigid Association of War Traumata with Other Traumatic Experiences*

Survivors who had had a healthy childhood usually showed improvement after the cathartic expression and abreaction of the war traumata. But in many cases the war traumata had activated earlier childhood traumata. The irony was that childhood frustration and affective neglect had often served as a kind of training for war survival; but this very training made the victims resistant to therapy.

### 5. *Master-Slave Roles in the Transference Situation*

Hoppe (1971) has accentuated the importance of the dominant roles of the concentration camp situation, those of master and slave. Many victims continue their postwar life in the role of the slave. They remain too submissive towards the outside world, even towards their own children. Others identify themselves with the role of the master; they are very strict and sometimes cruel to their families and others. A third group is marked by a rigid fixation on both sides, sometimes with a distressing oscillation between the two. In the transference situation many therapists are seduced into assuming too rapidly one or both of these roles themselves. Some take on the role of the almighty scientist who has a solution for everything, and others tell their patients that they feel powerless against the horrible past. The only solution is better understanding of one's own behavior and attitudes in relationship with the patient.

*Some Personal Comments*

The use of hallucinogenic drugs is not acceptable to those psychoanalysts who believe that it involves giving up the "gold" of traditional psychoanalysis for the "silver" of psychotherapy. They think that an LSD procedure cannot possibly disclose to the patient all the details of his neurotic defense mechanisms or defensive styles. But this seems to me mistaken. True, in LSD therapy the patient is confronted with his own psychic strategies in a way which differs from traditional analysis. But it is not true that LSD therapy is an abreaction procedure only. During an LSD session many patients are confronted with their resistances and defensive styles in such a convincing way that afterwards the essence of this confrontation remains etched in their minds; whereas in traditional psychoanalysis repeated repression or denial of what was experienced is a regular phenomenon.

LSD treatment, based on psychoanalytic principles and combined with a kind of psychodrama, is a form of direct analysis related to the work described years ago by John Rosen and Marguerite Sechehaye. Less time is needed than in ordinary analysis, for there is no need to wait weeks or even months until the patient gives up at least part of his pathological defensive styles.

The therapist needs the expertise to follow the patient from moment to moment during the session. This requires a special kind of sympathy or empathy and possibly also a personal awareness of the actual workings of the LSD process. At the time of a critical evaluation one knows exactly when the encounter was effective and when it was not. Patients who were entirely cured can usually describe exactly which moments of human contact during their LSD sessions led to fundamental changes in personality functioning. Commonly one hears from these patients: "I can feel better and more deeply; I can see so much better; I can listen so much better," etc.

Paradoxically, while the therapist is constantly trying to help the patient overcome his alexithymia, he himself may be unable to find words to convey to his fellow analysts his knowledge about the LSD process. To explain why in certain instances one uses a particular word or gesture or why one switches to an atypical approach remains a most difficult task. Outside the atmosphere created by the LSD session, words can only fail fully to reflect the essence of the experience.

A serious disadvantage of LSD therapy is the misunderstanding it creates in one's own professional circle and even more among other colleagues and laymen. Sometimes this leads to accusations and misinterpretations of one's scientific activities. Most psychiatrists are reluctant to pursue this type of work. Some feel intuitively that the confrontation with the world of psychosis may be too much for them to bear; others fear misinterpretation of their efforts by their own scientific community. Moreover, LSD treatment demands from the therapist a high level of honesty and sincerity. During LSD sessions patients develop such emotional sensitivity that it becomes entirely impossible to hide one's thoughts and feelings from them. This can be a difficult situation to handle.

But if one overcomes one's anxieties and achieves a direct human encounter, it can produce an immense enrichment of one's own existence. I have felt repeatedly, as I try to help these patients who are struggling for their freedom, that my work touches on that which is really basic in psychotherapy.

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## LSD— PSYCHIATRIC THERAPY AND RESEARCH

**John Buckman**

I first heard about LSD in 1952 while on duty in the Royal Army Medical Corps in Korea. My medical colleagues on board ship drew my attention to an article on LSD and psychotherapy published by Bush and Johnson in 1950.<sup>1</sup> I found it interesting but forgot about it until some 18 months later. In September 1953 my ship brought back to England the first 530 British POWs. During the 4 weeks of this journey, I became interested in their stories of their treatment in captivity, including sensory deprivation and attempts at brainwashing. After leaving the Army at the end of 1953, I began my psychiatric training as a registrar (resident) near London.

Later I learned about Stoll's and Hofmann's isolation of the compound in 1938, and read Hofmann's description of the first use of the drug on himself in April of 1943. I heard about Max Rinkel's bringing the drug to the United States in 1949 at the Boston Psychopathic Hospital (now the Massachusetts Mental Health Center), and about Humphry Osmond's work with LSD and other hallucinogens. Osmond's involvement was significant for two reasons: (1) in 1952 he and Smythies published a paper on the chemistry of schizophrenia;<sup>2</sup> (2) in 1953 he gave mescaline to Aldous Huxley; Huxley's publication of *The Doors of Perception* gave these drugs not only respectability but a certain attractiveness for the intelligentsia and the artistically minded.

In 1957 I joined the staff of the Marlborough Day Hospital in London, where some of the psychiatrists had been using LSD in psychotherapy since 1954, soon after Sandison began to use it at Powick Hospital. One of them was Joyce Martin, and another who soon joined our staff was Tom Ling, later my co-author. From 1960 to 1963 I had a 3-year research fellowship with a mandate to evaluate the efficacy of LSD in psychotherapy. At the start Ling and I set up criteria for admitting subjects to the research program.<sup>3</sup> In 1953 we published a book, *LSD and Ritalin in the Treatment of Neurosis*, which was, in fact, the first textbook on the clinical use of the drug.<sup>4</sup> In those years, I visited various psychiatric centers using LSD in psychotherapy and research, reviewed the fast-growing literature, and kept in touch with most of the seventy LSD researchers throughout the world. My correspondence with them would fill a large book.

It was a busy time, since I was also being psychoanalyzed and getting orthodox training in psychiatry, neurology, psychotherapy, and psychoanalysis. I attended the Maudsley Hospital in London, the National Hospital for Nervous Diseases, and the Tavistock Clinic; I also attended most of the international conferences on the use of these drugs. In June of 1962 I was invited to spend a month as Visiting Professor of Psychiatry at the University of Virginia in Charlottesville, where I was to lecture and administer LSD to volunteers from among the medical and allied professions. The Chairman, Dr. Ian Stevenson, invited me to join the faculty, an appointment I finally took up in January of 1966. This was the end of my 10 years of exciting, rewarding, and fruitful work with LSD and other hallucinogens.

The publication of Leary, Metzner, and Alpert's *The Psychedelic Experience* in 1964 may have been the first of a series of death blows to LSD research. The "Psychedelic Decade" produced widespread and bizarre experimentation with all kinds of chemicals. The climate of opinion created by the wave of drug abuse interfered seriously with LSD research. When I joined the Medical School faculty in Charlottesville, I intended to study LSD along with Dr. Stevenson and other colleagues; but I never worked with the drug again, and gradually my interests turned elsewhere.

I was delighted to receive an invitation to contribute to this book. I have been reluctant in recent years to respond to similar requests from other authors and editors, since many "drug culture" publications are somewhat narcissistic and self-indulgent accounts of "visions and experiences." Much of the psychedelic literature had been badly written, edited and published; sometimes incoherent, often motivated by exhibitionistic tendencies and the need to proselytize, usually showing a counterphobic use of the drug in order to "master by repetition." At the other end of the spectrum we had official and semi-official pronouncements intended to discourage the use of psychedelic drugs, sometimes documented by the latest "scientific evidence" of their potential dangers. Some of these were documented by laboratory studies and others by a single case history, often a "horror story" which proved to be a hoax. I hope this volume will be a resurrection rather than an obituary for the clinical use of LSD and other psychedelics, since I would some day like to return to this kind of research.

## **LSD CLINICS IN LONDON**

In the 1950s and 1960s, most of the LSD work done in London was at the Marlborough Day Hospital. Our reasons for using LSD were that while consciousness was maintained, resistance could be overcome, regression speeded up, transference intensified, recall facilitated, abreaction promoted, gain of insight assisted, and capacity for introspection increased. During my 10 years there, my colleagues and I treated some 600 individuals in more than 10,000 sessions. Patients accepted for LSD therapy would normally begin with 1 to 6 months in individual psychotherapy so that we could make an extensive personality assessment, encourage them to take a more psychological approach to their problems, and get them in touch with difficult areas of conflict.

The majority of patients were treated at night. They would come in at 6 o'clock and receive a dose of LSD varying from 25 to 200 micrograms; it was administered intramuscularly by the nurse, or else orally in the form of tablets. In each case the psychological significance of the route of administration was explored and discussed with the patient. The session would continue until about midnight. Some would then go to sleep without any medication, while others required a small dose of sodium amytal or thorazine. One therapist and two nurses could treat from two to four patients on each occasion. Part of the session was used for interpretation of the verbalized material, and the rest of the time patients were encouraged to let themselves "go with the experience." Each patient was seen again for a psychotherapy session 1 or 2 days after the LSD session and then again as often and for as long as necessary. Some therapists preferred to have the four patients meet in a group on the morning immediately after recovering from the LSD session.

Only about 8 to 10 percent of psychiatric outpatients were considered suitable for this form of treatment. They were usually selected for their unconscious motivation, ego-integration, adequate perception of reality, intelligence, capacity to tolerate frustration, anxiety, and depression, reasonable emotional control, reasonable physical health, and an age range of about fifteen to fifty. Later, other patients were given the drug. It became obvious that the sustained therapeutic relationship was crucial and that one had to watch for warning signs which every patient produces at the threat of the emergence of overwhelming anxiety.

Schizophrenics who were given LSD became less isolated and more sociable, but only temporarily. Some schizoid personalities profited from a single dose of LSD which apparently gave them sufficient material for reconstructive psychotherapy. Gross hysterics, many of whom were probably borderline psychotics, proved to be unsuited for this form of treatment. They tended to form transferences which neither they nor the therapist could utilize, followed by paranoid reactions and impulsive behavior.

The aggressive psychopath also proved unsuited for outpatient administration of LSD, although some workers have been successful using it sparingly as part of a sustained therapeutic relationship in an inpatient setting. The inadequate psychopath formed a dependent and demanding transference and tended to fall back on very primitive defenses; some resulted in drug or alcohol addiction. Many obsessionals who were unable to profit from ordinary psychotherapy benefited in a minor way from LSD. One or two treatments at a period when they seemed to block in analysis were found helpful, but repeated doses of LSD without gain of insight tended to increase their obsessive rituals or provoke an escape into hypochondriasis.

Space constraints force me to limit myself to observations on several aspects of LSD psychotherapy which may have been crucial and which I believe will be interesting to the reader.

### *The Fate of The Ego and Creativity*

We were interested in seeing to what extent instinctual drives and neurotic conflicts provide motivation for sublimation and thus for creative expression. If fantasies, memories, and feelings are to be combined and

translated into works of art, the ego has to remain to some extent intact so that the production may be understood and perceived by others. Many of our subjects during and following LSD sessions were involved in both active and passive artistic activity. They listened to music, looked at works of art, and read literature. They were also encouraged to play an instrument, draw, model in clay, paint, or attempt to write.

For some patients, these activities were useful in allowing the expression of feelings which appeared in the relived memories and in transference. At other times artistic activity was a defense which hindered the production of significant emotionally charged material. Some patients had a real awakening of latent talents which had been repressed, denied, resisted, or suppressed because of faulty upbringing. Others began to go to concerts or art galleries for the first time, or sought out literature, especially poetry, which they would previously have viewed as "soppy." However, no significant work of art was produced by anyone who had not shown talent before.

### *Regression*

Patient #1. "I seemed to be very warm and sweating and everything was very dark. I became dreamy and had a sense of vagueness and drifting into the distance. People around me seemed to become more distant, their voices became muffled and I could only with difficulty distinguish the different words. Then my body seemed to be propelled backwards at great speed and I noticed that I was beginning to shrink in size. I was fascinated to see that my hands and fingers became quite small like those of a child. When I stopped shrinking I seemed to be at a time when I was a four-year-old girl. The nightgown that I was wearing somehow assumed the shape of the first nightgown I was given by my mother when I was about four years old. I remembered at the time that I had kept it for about twenty-five years and only discarded it after my first child was born."

This patient, a thirty-five-year-old woman, mother of two children, reported these experiences during her fourth analytic session after she was given 100 micrograms of LSD.

Patient #2. "Everything around me seemed to become more distant and unreal and I thought I was floating and spinning at great speed. I seemed to be naked and surrounded by some fluid, the texture of which I felt approached closely that of urine. I was still shrinking in size. A strange feeling of weightlessness became very obvious and pleasurable. I felt that I could at will spin in all directions and experienced no difficulties and no resistance. Mostly I seemed to be upside down. My head which felt larger than the rest of the body seemed very full as if all my blood had rushed into it. I seemed to be in darkness, but I could easily feel with my extremities the limitations of my surroundings. It did not seem like a room; and suddenly there was kind of a eureka feeling. I was convinced that I was still in my mother's womb. I was alive and could feel some kind of rhythmical pounding which I assumed must have been my mother's heartbeat."

The patient, a thirty-three-year-old unmarried male with a passive-dependent personality, regressed to this stage on four separate occasions with LSD treatment even though the dose each time was comparatively small, ranging between 50 and 75 micrograms.

Patient #3. "My knees came up to my chin, my head came down to touch my knees and my arms tied themselves up so that my closed hands rested close to my chin. I felt microscopically small. I was suspended in and floating through some narrow, dark, warm channel. Soon, I became aware of some other microscopic creatures just like myself accompanying me on my journey. We all seemed to have huge heads and tiny bodies which seemed rather like tails without any limbs. We all looked very much like tadpoles. We all seemed to have the same wiggly movements, we were all propelled in the same direction and I somehow sensed we all had the same purpose. I was convinced we were all spermatozoa. Part of my mind somehow felt this thought was ridiculous but I had no great difficulties in accepting it as being true."

This patient, a forty-one-year-old married medical illustrator, was convinced for a time that he had relived his pre-conception existence as a spermatozoon. This belief lost some of its certainty as time went on, but I think he never lost it completely. The patient's phrase, "This thought was ridiculous but I had no difficulties in accepting it as being true," gives us an important clue to some of the pitfalls of LSD: increased suggestibility, an identification with the experience, and a tendency to believe that whatever we "discover" is the ultimate truth and of great importance. This observation has been documented by various studies of brainwashing, and I have described it elsewhere.<sup>3</sup>

Patient #4. "I seemed to be a tiny baby; pleasant bubbling sensations alternated with waves of anxiety. I thought I was very young and many people were standing around me. I could not understand the words. I was lying on my back in my crib and a number of my relatives were standing around me. They were looking at me and their gaze was firmly fixed on my throat. I could not understand the words but I could sense an air of concern. They believed I would have difficulty in speaking as I grew up. I, myself, felt somewhat anxious, uneasy, and puzzled."

This patient, a twenty-eight-year-old male with a childhood stammer, had a scar on his throat about the place of his Adam's apple. Following this and other LSD sessions, he took the trouble to trace his childhood hospital records and discovered that he had been born with a large naevus on his throat which was surgically removed at the age of three years.

These are not unusual examples of regression under LSD. Whether they represent actual memories is not clear, although the central nervous system is certainly mature enough during the last 2 months of pregnancy to record most sensations. This degree of regression is seldom seen in ordinary psychotherapy. In many cases it gives patients valuable insight into their dependency, but it should not be prolonged or repeated too much; this can be minimized by lowering the dose or by engaging the patient in conversation.

### *The Puzzle of Identification*

Identifications are produced by regression accompanied by loss of ego boundaries. Space allows me only to mention some examples without further elaboration. Patients identify with other persons, living and dead, actual and imaginary, individuals and groups, with royalty, with gods, devils, and such disparate characters as Donald Duck and Jack the Ripper.

Patients also identify with animals, just as to small children a dog is not a dog but a four-legged cousin. There are identifications with plant life, especially with trees; the sexual symbolism is obvious. A patient treated by a colleague of mine, after hearing and reading of a series of particularly brutal murders, confessed under LSD to having committed three of them. The story was so convincing that we contacted the authorities. Fortunately, we found that it was quite impossible for him to have been present in any of the places where the murders were committed.

Often these identifications with others acquire the flavor of empathy. Patients and experimental subjects feel grateful for becoming more sensitive to the needs of others and more able to see the other person's point of view. One patient "relived" an experience of his older brother, who was beaten at the age of five years; during the session red wheals appeared on his back. Another patient "relived" an occasion when her sister had had her wrists tied before being spanked, and several days later she produced a ganglion on the back of her right wrist.

### *The Problem of Aggression*

Three major areas of conflict are the sexual drive, the aggressive drive, and dependency needs. So far the LSD material has given us ample illustration of how the human mind deals with the sexual drive and conflicts of dependency. One of the reasons LSD and other hallucinogens have acquired so much popularity may be that they seem able to curb the aggressive drive. A well-prepared adult experiencing LSD in a supportive setting will usually report feeling less aggressive and more lovingly disposed toward others. It is interesting that LSD reached its highest popularity during the Vietnam conflict, when a young generation threatened with emergence of unconscious hostile impulses welcomed a drug which to some extent neutralized those feelings. Almost universally, prolonged use of LSD has been found to be correlated with profound and lasting attitudes of passivity.

## **BIRTH MEMORIES AND BIRTH FANTASIES**

### *Memory of Being Born*

An unmarried woman of twenty-three during her fifth LSD session under 100 micrograms of LSD wrote, "I felt that my surroundings were being constricted. I was being squeezed from all sides; my head seemed to be pointing downward, and I experienced at first terrible pressure in my head. It felt like some of the headaches which I experience on occasion. I became aware of some muscular contractions around me which were not my own. My head continued to be squeezed. My nose was flattened and my chin was pressed down against my trachea. It seemed like I was being squeezed or pushed through a mangle. Suddenly the pressure on my head seemed to lessen. My head began to feel cold and I became aware of the bright lights around me."

This is an excerpt from a much longer detailed description of an experience which the patient herself was convinced represented her own birth.

### *Experience of Giving Birth*

A thirty-three-year-old mother of three under 150 micrograms of LSD during her third session writes, "The contractions became stronger and more frequent and I soon began to experience a terrible pressure down below as if I was being torn apart. Mostly I felt pain, on occasions rage and resentment that this should be happening to me; but there were also brief moments when the pain itself was pleasurable. At times it felt very much like having a shit and I began to understand how much effort and anger can go into shitting and why a majority of swearwords are couched in those terms."

A twenty-one-year-old woman patient who had never been pregnant related the following experience under 80 micrograms of LSD during her eighth session: "The sensation of stretching was much worse than anything I have experienced during intercourse. I was being torn and ravaged and I was wondering whether this was anything like being raped. I remember them telling me to push and each time I pushed the pain got worse. I was the victim and at other times I was the aggressor. It seemed that I was squeezing something or somebody out of my own being and in the process of this, I felt like I was injuring, hurting, but also shaping whatever it was I was producing. I was wondering whether all mothers experience the same thing and whether it was like this for my mother when I was born."

### *Experience of Witnessing a Birth*

A twenty-six-year-old, female patient, mother of two, recounted the following experience, "I had seen my mother in labor pains. She was sitting on the bed with her head hanging down. She looked awful; I somehow sensed that something important and maybe wonderful was about to happen. The midwife examined the entrance. I was horrified at the amount of stretching that I saw and presently the baby's head began to force its way out. I felt in pain myself. I felt as if my nether regions were being stretched. I think I must have passed out because when I looked again the baby was born, and I saw the large gaping hole between my mother's legs which was oozing blood. I felt a sense of emptiness and I did not know whether it was my emptiness or my mother's emptiness."

From what we were able to reconstruct later, this patient was probably about two years old when the mother gave birth to the baby. This experience was obviously traumatic for the patient. She was later able to relive the whole experience twice during different LSD sessions, each time with less anxiety, less physical pain, and less panic. One is reminded here of Wilhelm Reich's description of a child's feeling of "emptiness" in its genitals after witnessing the mother giving birth.

### *Birth-Giving Experience in a Man*

A thirty-eight-year-old, married man, father of two, during his eighth LSD session under 125 micrograms of LSD wrote, "I remember feeling like this when my wife was giving birth to our second child, but noted the experience was much stronger and much more personal. When I closed my eyes I felt I was lying on my back with my knees drawn up and a number of

people were very busy at the other end of the bed. It felt very much like I was trying to go to the toilet. I pushed and I pushed and nothing would come out. Presently I experienced an excruciating pain in my stomach and the desire to push down again. This time the people were urging me to push. I dug my fingers into the side of the mattress until I felt my nails breaking; my head felt full of blood and it was pounding. My bottom was being torn but the pain was also becoming pleasurable as it is on occasions when I have to struggle to empty my bowels. This time it was different. There were people helping me and I was pleased with what I was doing and producing. I was becoming lightheaded and somewhat confused. An alternating picture of myself sitting up on the pot and myself as a woman giving birth to a child fled in and out. In my clear moments of this struggle I was angry at and envious of women who could have an experience like this. I remember wishing that I had a larger dose of the drug so that I could relive giving birth to a baby without this confusion."

This is part of a much longer description in which the patient gives us a very good illustration of the identification with and envy of women which men harbor as they sublimate their maternal instincts.

### *Transference, Countertransference, and Doctrinal Compliance*

LSD speeds up, intensifies and deepens transference, at times distorting it to the point of psychosis. There is also a distortion of countertransference and increased doctrinal compliance. The therapist cannot function as a neutral analyst; he has to play many roles simultaneously for the very regressed patient with his minimal observing ego. He may appear as a doctor, mother, father, brother, wife, judge, jury, and executioner all within a split second. The patient may perceive the therapist as actually looking and sounding like his own parental figures. Transference may swing very quickly from strongly positive to strongly negative.

Countertransference is often complicated, and the therapist must always be aware of his own motives for anything that he does or omits during the session. His strength and tone of voice and his movements are quickly noticed and sometimes misinterpreted by the patient; they may be woven into bizarre and highly sexualized fantasies. One young woman writes, "I somehow thought that the nurse was standing between you and me. Although I was lying in my bed, I felt that I was pacing up and down the room like a caged animal just hating. When the nurse came and sat with me, I felt worse. I felt I wanted to vomit. She appeared to look just like my mother. Then she turned into a witch and then into the devil. At the same time while hating her, I was having pleasurable sensations sexually. Somehow I could not understand the combination. She appeared to me like a grotesque octopus. She was so loathsome to me and I could not even bear to be with her."

The patient, a twenty-nine-year-old married mother of two, had suffered for a number of years from ulcerative colitis. She had a very ambivalent relationship with her mother, and many of her LSD sessions took the form of a reliving of that relationship. Her ambivalence and her homosexual fears came to the surface when she reported: "I felt very ill

indeed, so ill that I was unable to speak. Presently, I felt I was going mad. Some parts of my body were exploding and I had to make sure someone would take care of me and make sure everything would be all right. When the nurse came in, I did not want her to touch me. I then remembered sitting in my mother's lap and having pleasurable feelings like these while moving about. I had an amazing mixture of feelings. I felt excited, loving, shameful, and angry all at the same time. I seemed to have a physical longing for my mother, to be touched, and I felt that the vomiting was caused by it." Reliving some of her sexual guilt, she said, "I was angry at the nurse for administering the drug to me in an unsatisfactory way. I felt she was treating me like an old woman who had never had the right to experience an orgasm."

The term "doctrinal compliance" in connection with LSD treatment has been mistakenly understood to mean that the patient produces experiences which confirm the therapist's professional and philosophical convictions solely in order to please the therapist. It is better understood in terms of transference; the regressed patient "relives" experiences and fantasies which resonate with the therapist's own concerns. How these experiences are interpreted depends on the therapist's intuition, empathy, and, above all, proficiency as an analyst. The patient must not be forced into the therapist's own theoretical mold. Insight is possible only when the patient is almost ready to give the interpretation himself with an accompanying feeling that he has known it all the time. The LSD experience provides material in such abundance that therapists of all persuasions can use it without shaking their particular faiths. This is one of the attractions of the drug, and a major pitfall for therapists is marvelling at their own "skill" in "interpreting" the patient's productions.

I have known therapists whose patients predictably produce fantasies of assault or the torments of the birth trauma. Other therapists have patients who constantly feed them on a diet of sexual abuse, incest, rape, and all the "kinky" stuff that the producer of a porn movie would give his right arm for. I once heard a therapist mention with delight at a clinical meeting that one of his patients had "relived" 36 rapes in one session. Another therapist felt most comfortable when her patients regressed to the first few months of life so that she could remain there with them as the good mother; they were seldom able to progress further towards the emergence and resolution of conflicts.

## CONCLUSIONS

We are now probably ready to return to serious research with LSD. In the past 30 years we have learned more about the human brain than in all the previous history of science. We also know enough about human development, psychopathological formation and the use of individual symbols to understand much of the experience produced by LSD; the psychoanalytic model still remains the best tool for this purpose. We now understand more clearly that a human being, with or without LSD in his brain, cannot be understood without taking into account social setting in which his experience has been shaped.

LSD remains one of the most valuable tools in understanding the functioning of the human mind. It mimics, often with great accuracy, the aberrations of mental illness, visionary states, and states of grace. The problems of birth and death almost invariably arise, and these can best be explained by psychoanalytic theories. The work of LSD investigators such as Grof,<sup>6</sup> who stress the importance of the birth trauma and prenatal experience, was anticipated by writers like Rank,<sup>10</sup> Abraham,<sup>1</sup> Melanie Klein,<sup>7</sup> and Winnicott.<sup>12</sup> Winnicott's theory of the transitional object has been confirmed many times by the experiences of our patients. Many fantasies of physical suffering and cruel treatment produced by them can be understood in terms of Freud's "A Child is Being Beaten."<sup>5</sup> The repeated reliving of these masochistic fantasies under LSD suggest that they were originally invested with a good deal of pleasure.

One cannot write about LSD without writing about its abuse. I have written elsewhere about its potential as a weapon of warfare.<sup>3</sup> To understand its abuse as a street drug one has to see it in its social setting. Faced with the increase of the general level of violence in the world, especially in the Vietnam War, and threatened by the emergence into consciousness of their own aggressive impulses, young people took drugs which seemed to reduce the aggressive drive. Young people who were angry and disappointed with their parents and trying to separate without the pain of mourning wanted to be as different from their elders as possible—a difference they achieved through music, hairstyles, clothing, and drugs. It became clear that LSD could produce dependence, not because it was addictive (it is not), but because the immediacy and the "ultimate truth" of the experience were tempting to those who needed to run away from uncomfortable reality both intrapsychic and extrapsychic.

In the past few years the increase of LSD abuse has slowed down. It may be that the puzzling and often terrifying problems now being faced by the human race are forcing a return to more traditional drugs such as alcohol and other depressants, as the craving for overstimulation subsides. This may make it possible for us to return once again to the important task of LSD research.

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## **NEW PERSPECTIVES IN PSYCHOTHERAPY: Observations from LSD Research**

**Stanislav Grof**

Contemporary psychotherapy suffers from a deep conceptual chaos and confusion. Competing schools disagree fundamentally about the nature and dynamics of the human psyche, the etiology of emotional disorders, and techniques of psychotherapy. Different therapists offer entirely different interpretations of the same problem. This is true even for schools whose founders originally shared the same belief system, such as the Freudians, Adlerians, Reichians, Kleinians, Jungians, and followers of Karen Horney.

Therapeutic technique reflects the therapist's belief system and theoretical bias. Since professionals of different schools claim equally good therapeutic results, it seems that the outcome is unrelated to the therapist's understanding of the process involved. The successes must be explained by variables that therapists have not recognized. In any case, the therapeutic efficacy of psychoanalytically oriented psychotherapy has not been proved. Researchers of the caliber of Hans Eysenck<sup>1</sup> question whether the results are significantly different from spontaneous changes in untreated populations.

The theoretical claims of different psychotherapeutic schools are certainly weakened by their disagreements. In addition, none of them except Jungian psychology and to some extent psychosynthesis have been able to take account of the profound knowledge about consciousness accumulated for centuries by the great spiritual traditions such as Hinduism, Mahayana and Hinayana Buddhism, Vajrayana, Sufism, Kabbala, or alchemy.

During the last decade professionals have become increasingly dissatisfied with the contemporary theory and practice of psychotherapy, with the image of the human being as a thinking biological machine, and with Cartesian-Newtonian science in general.\* One symptom of this is the mushrooming of new experiential techniques. Although they have not been integrated into the mainstream, such approaches as Gestalt practice, neo-

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\*The interested reader will find more information on this subject in the writings by Itzak Bentov,<sup>1</sup> David Bohm,<sup>2</sup> Fritjof Capra,<sup>3</sup> Stanislav Grof,<sup>5-7</sup> Michael Harner,<sup>8</sup> Ken Pelletier,<sup>13</sup> Karl Pribram,<sup>14,15</sup> Charles Tart,<sup>17</sup> Gary Zukav,<sup>20</sup> and others.

Reichian techniques, encounter groups, primal therapy, and rebirthing represent an increasingly plausible alternative to academic psychotherapy.

Observations indicating an urgent need to transcend the limitations of mechanistic science come not only from modern consciousness research and new experiential techniques of psychotherapy, but also from anthropological field studies, neurophysiology, parapsychology, and quantum-relativistic physics. However, a comprehensive framework integrating these tendencies has yet to be formulated.

In this paper, I would like to discuss observations from my own work that might throw some new light on the problems involved. For the last 25 years I have studied unusual states of consciousness induced by psychedelic substances and various nondrug means,<sup>5-7</sup> with an emphasis on their therapeutic potential and heuristic value. I have personally conducted over 3000 LSD sessions and have studied an additional 2000 records from psychedelic sessions run by my colleagues in Europe and in the United States. The majority of subjects in these sessions were patients with a wide variety of emotional disorders—severe psychoneuroses, psychosomatic diseases, sexual deviations, alcoholism and narcotic drug addiction, character neuroses, borderline psychoses, and various forms of manifest psychoses. Another large group were "normal volunteers"—psychiatrists, psychologists, students, and nurses who had psychedelic sessions for training purposes; painters, sculptors, and musicians seeking unconventional forms of artistic inspiration; philosophers and scientists from various disciplines interested in acquiring new insights; and priests or theologians interested in exploring the mystical and religious dimensions of the psychedelic experience. A few sessions were conducted with patients suffering from cancer and facing death.

During the early years of my LSD research, when I worked in the Psychiatric Research Institute in Prague, most of the subjects received medium doses of LSD (100-250 micrograms) in the framework of psychoanalytically oriented psychotherapy (psycholytic approach). The drug sessions typically began after 2-3 weeks of preparatory nondrug work, and treatment consisted of 15-100 sessions 1 to 2 weeks apart. Since coming to the United States in 1967, I have used a different therapeutic approach: a small number of high dose LSD sessions (300-500 micrograms) in a special set and setting, aimed at facilitating a deep transformative experience of a transcendental nature (psychedelic approach). The psychedelic experiences were strictly internalized by the use of eyeshades, stereophonic headphones, and specially selected music. The therapeutic process was well documented in detailed records describing both the events in psychedelic sessions and the dynamics of the intervals between them. In these records, descriptions by the subjects were complemented by the observations of the sitters.

During my psychedelic work I underwent a profound transformation both personally and professionally. I was trained as a psychoanalyst by rather orthodox Freudian teachers, but my early fascination with psychoanalytic theory was later moderated by the meagerness of its therapeutic results. I started using LSD in the hope that it would intensify and accelerate the analytical process. At the beginning I wanted to adhere to Freudian theory and practice, but I found it necessary to transcend them. It also became obvious to me that LSD can best be seen as a catalyst

or amplifier of mental processes. The person who takes the drug does not have an "LSD experience," but undertakes a journey into his or her psyche. For this reason LSD work is of deep relevance for understanding the human mind and psychotherapy.

The far-reaching implications of LSD research for the theory and practice of psychotherapy fall into three large categories:

1. the dimensions of the human mind and a new model of the psyche
2. new understanding of emotional disorders and of the therapeutic process
3. new insights into human nature and the nature of reality.

### **NEW MODEL OF THE HUMAN MIND**

Freud's understanding of the human psyche centers on biography and the individual unconscious. The psychological history of the individual begins after birth, and the newborn is seen essentially as a tabula rasa. Otto Rank, Sandor Ferenczi, and others who extended this model to include the birth trauma, phylogenetic memory, or the collective unconscious have been treated as renegades and mavericks. But observations from psychedelic work indicate the need for a radical revision and extension of Freud's understanding. For the purpose of our discussion it seems useful to distinguish at least three major domains of the unconscious:

1. recollective-biographical level,
2. perinatal level, and
3. transpersonal level

### **THE RECOLLECTIVE-BIOGRAPHICAL LEVEL OF THE UNCONSCIOUS**

The experiences in LSD sessions that are biographically determined can be understood to a great extent in terms of basic psychoanalytic concepts. If this were the only type of LSD experience, it would be laboratory proof of the Freudian theoretical framework. The basic conflicts described by Freud are manifested with unusual clarity and vividness even in the sessions of naive subjects. People experience regression to childhood and early infancy, relive various psychosexual traumas, and confront conflicts related to activities in different libidinal zones. They have to work through problems such as the Oedipus and Electra complex, early cannibalistic feelings, conflicts about toilet training, castration anxiety, and penis envy.

However, for a more complete understanding a new principle has to be introduced: that of specific memory constellations, which I call *COEX systems* (systems of condensed experience). The memories belonging to a particular COEX system have a similar basic theme, contain similar elements, and are accompanied by a strong emotional charge of the same

quality. The deepest layers are vivid and colorful memories of infancy and childhood; more superficial layers involve memories from a later time. The excessive emotional charge which is attached to COEX systems (as indicated by the powerful abreaction often accompanying their unfolding) seems to represent a summation of the emotions belonging to all the constituent memories of a particular kind. Individual COEX systems involve special defense mechanisms and are connected with specific clinical symptoms. The personality structure of psychiatric patients usually includes several major COEX systems, which vary considerably from one individual to another. The biographical level of the unconscious, and thus the role of the COEX systems, is much less significant in individuals whose childhood was not particularly traumatic.

Another important difference between the Freudian understanding of the individual unconscious and the one that has emerged from LSD work is the paramount importance of physical traumas. In general, physical traumas seem much more relevant in the development of psychopathology than influences of a purely psychological nature. Subjects typically have to relive situations from the past that represented a serious threat to survival or body integrity. These include childhood diseases, operations, injuries, and instances of near drowning as well as episodes of extreme physical abuse. Memories of severe physical threats and traumas play a significant role in the psychogenesis of various emotional disorders, particularly depressions, suicidal behavior, sadomasochism, hypochondriasis, and psychosomatic disorders. This fact has remained unrecognized and unacknowledged by the schools of dynamic psychotherapy.

### PERINATAL LEVEL OF THE UNCONSCIOUS

The most important common denominator of the experiences originating at this level is a group of problems related to biological birth, physical pain and agony, disease, aging, decrepitude, dying and death. It takes the form of a profound first-hand experience, rather than just symbolic confrontation. Eschatological ideation and visions of wars, revolutions, concentration camps, accidents, decaying cadavers, coffins, cemeteries, and funeral corteges, characteristically occur during perinatal experiences. However, at their heart is an extremely realistic and authentic sense of the ultimate biological crisis. Patients may even lose critical insight and develop a delusional conviction that they are literally about to die.

This shattering confrontation with the vulnerability and impermanence of humans as biological creatures has two important consequences. The first is a profound emotional and philosophical crisis that forces people to question their values seriously. The second consequence is the opening of areas of religious and spiritual experience that seem to be an intrinsic part of the human personality and are independent of the individual's cultural and religious background. Even positivist scientists, hard-core materialists, skeptics and cynics, uncompromising atheists and antireligious crusaders such as Marxist philosophers and politicians, suddenly become interested in a spiritual quest after they confront these levels in themselves.

The sequences of dying and being born (or reborn) are often very dramatic and have biological concomitants apparent even to the outside observer. Subjects may spend hours in agonizing pain, with facial contortions, gasping for breath and discharge of muscular tension in tremors, twitches, violent shaking, and complex twisting movements. The face may turn dark purple or deadly pale, and the pulse may show considerable acceleration. Body temperature usually oscillates in a wide range, sweating may be profuse, and nausea with projectile vomiting is common. Subjects also assume fetal postures and move in sequence like those of a child during birth. They report identification with fetuses and newborn children, and visions of female genitals and breasts. Some LSD subjects refer to these experiences as a reliving of their birth trauma; others conceptualize them in purely symbolic, philosophical, and spiritual terms. But even in this latter group perinatal experiences are regularly accompanied by physical symptoms that can best be interpreted as a derivative of biological birth.

Most of the rich and complex content of this level of the unconscious seems to fall into four typical clusters or experiential patterns which show astonishing parallels with the clinical stages of delivery. I call these unconscious structures *Basic Perinatal Matrices* (BPM I-IV). I see them as hypothetical dynamic governing systems which have the same function on the perinatal level of the unconscious that COEX systems have on the psychodynamic level. All their complex interrelations are shown in the synoptic paradigm printed below (pages 170-171). Further detail is provided in Grof<sup>2</sup> and Grof<sup>3</sup>.

In a series of LSD sessions, individual elements of various matrices can occur in various patterns and sequences. The process is not completed by a single experience of death and rebirth, however profound. As a rule it takes many death-rebirth sequences and an entire series of high-dose LSD sessions to work through the material on the perinatal level, with all its biological, emotional, philosophical, and spiritual manifestations.

In this process the individual has to face the deepest roots of existential despair, metaphysical anxiety and loneliness, murderous aggression, abysmal guilt and inferiority feelings, as well as excruciating physical discomfort and the agony of total annihilation. These experiences provide access to the opposite end of the spectrum—orgiastic feelings of cosmic proportions, spiritual liberation and enlightenment, a sense of ecstatic connection with all of creation, and mystical union with the creative principle in the universe. Psychedelic therapy involving experiences on the perinatal level thus represents a twentieth-century version of a process that has been practiced for millennia in various temple mysteries, rites of passage, secret initiations, and religious meetings of ecstatic sects.

### TRANSPERSONAL LEVEL OF THE UNCONSCIOUS

The common demoninator of this otherwise rich and ramified group of phenomena is the subject's feeling that his or her consciousness has expanded beyond the usual ego boundaries and transcended the limitations of time and space. Many such experiences are interpreted by the subjects as

regression in historical time and exploration of a biological or spiritual past. Sometimes quite concrete and realistic episodes are identified as fetal and embryonic memories. Many subjects report vivid sensations of being a sperm or ovum at the moment of conception. Sometimes the regression appears to go even further, and the individual has a feeling of reliving memories from the lives of his or her ancestors, or even drawing on the racial and collective unconscious. On occasion, LSD subjects identify with various animal ancestors in the evolutionary pedigree or have a distinct feeling of reliving episodes from a previous incarnation.

Other transpersonal phenomena involve transcendence of spatial rather than temporal barriers. Here belong the experiences of merging with other people and experiencing what appears to be the consciousness of animals, plants, or even inanimate objects. In the extreme, it is possible to experience the consciousness of all creation, our planet, or the entire material universe. In a large group of transpersonal experiences, the extension of consciousness seems to go beyond the phenomenal world into encounters with spirits, demons, gods, archetypal forms, and complex mythological sequences. Individual consciousness may seem to encompass the totality of existence and identify with the Universal Mind, and beyond it with the Supracosmic and Metacosmic Void, the mysterious primordial emptiness and nothingness that is conscious of itself as containing all existence in germinal form.

Transpersonal phenomena cannot be interpreted as simply intrapsychic. Although they occur during deep individual self-exploration, their sources frequently appear to be outside of the individual as conventionally defined. The recollective-analytical level is clearly biographical in origin and nature; perinatal experiences lie on the frontier between the personal and the transindividual represented by biological birth and death; the transpersonal realm seems to imply connections between the individual and the cosmos mediated through channels which are at present beyond our comprehension. Intimate knowledge of the transpersonal and perinatal realms is absolutely essential not only for understanding the psychedelic process, but for any serious approach to such phenomena as shamanism, religion, mysticism, rites of passage, mythology, parapsychology, and schizophrenia.

### **NEW UNDERSTANDING OF EMOTIONAL DISORDERS AND OF THE THERAPEUTIC PROCESS**

The above cartography of the unconsciousness has revolutionary implications for understanding psychopathology and offers therapeutic possibilities undreamt of by traditional psychiatry. Operations focusing on material from the individual unconscious are superficial and of limited value, considering the enormous investment of time and energy required. Sequences of death and rebirth offer a new therapeutic mechanism of extraordinary potency. Various forms of depression, claustrophobia, sadomasochistic tendencies, impulsive behavior, abuse of alcohol or drugs, asthma, migraine headaches and other clinical problems can be drastically alleviated or even eliminated in a matter of hours or days. In many cases

BASIC PERINATAL MATRICES

BPM I

schizophrenic psychoses (paranoid symptomatology, feelings of mystical union, encounter with metaphysical evil forces, karmic experiences); hypochondriasis (based on strange and bizarre physical sensations); hysterical hallucinosis and confusing daydreams with reality

BPM II

schizophrenic psychoses (elements of hellish tortures, experience of meaningless "cardboard" world); severe inhibited "endogenous" depressions; irrational inferiority and guilt feelings; hypochondriasis (based on painful physical sensations); alcoholism and drug addiction

BPM III

schizophrenic psychoses (sadomasochistic and scatological elements, auto mutilation, abnormal sexual behavior); agitated depression, sexual deviations (sadomasochism, male homosexuality, drinking of urine and eating of feces); obsessive-compulsive neurosis; psychogenic asthma, tics, and stammering; conversion and anxiety hysteria; frigidity and impotence; neurasthenia; traumatic neuroses; organ neuroses; migraine headaches; enuresis and encopresia; psoriasis; peptic ulcer

BPM IV

schizophrenic psychoses (death-rebirth experiences, messianic delusions, elements of destruction and creation of the world, salvation and redemption, identification with Christ); manic symptomatology; female homosexuality; exhibitionism

RELATED PSYCHOPATHOLOGICAL SYNDROMES

CORRESPONDING ACTIVITIES IN FREUDIAN EROGENIC ZONES

libidinal satisfaction in all erogenic zones; libidinal feelings during rocking and bathing; partial approximation to this condition after oral, anal, urethral, or genital satisfaction and after delivery of a child

oral frustration (thirst, hunger, painful stimuli); retention of feces and/or urine; sexual frustration; experiences of cold, pain, and other unpleasant sensations

chewing and swallowing of food; oral aggression and destruction of an object; process of defecation and urination; anal and urethral aggression; sexual orgasm; phallic aggression; delivering of a child, statoacoustic eroticism (jolting, gymnastics, fancy diving, parachuting)

satiation of thirst and hunger; pleasure of sucking; libidinal feelings after defecation, urination, sexual orgasm, or delivery of a child

ASSOCIATED MEMORIES FROM POSTNATAL LIFE

situations from later life where important needs are satisfied, such as happy moments from infancy and childhood (good mothering, play with peers, harmonious periods in the family, etc.), fulfilling love, romances; trips or vacations in beautiful natural settings; exposure to artistic creations of high aesthetic value; swimming in the ocean and clear lakes, etc.

situations endangering survival and body integrity (war experiences, accidents, injuries, operations, painful diseases, near drowning, episodes of suffocation, imprisonment, brainwashing and illegal interrogation, physical abuse, etc.); severe psychological traumatizations (emotional deprivation, rejection, threatening situations, oppressing family atmosphere, ridicule and humiliation, etc.)

struggles, fights, and adventurous activities (active attacks in battles and revolutions, experiences in military service, rough airplane flights, cruises on stormy ocean, hazardous car driving, boxing); highly sensual memories (carnivals, amusement parks and nightclubs, wild parties, sexual orgies, etc.); childhood observations of adult sexual activities; experiences of seduction and rape; in females, delivery of their own children

fortuitous escape from dangerous situations (end of war or revolution, survival of an accident or operation); overcoming of severe obstacles by active effort; episodes of strain and hard struggle resulting in a marked success; natural scenes (beginning of spring, end of an ocean storm, sunrise, etc.)

# PHENOMENOLOGY IN LSD SESSIONS

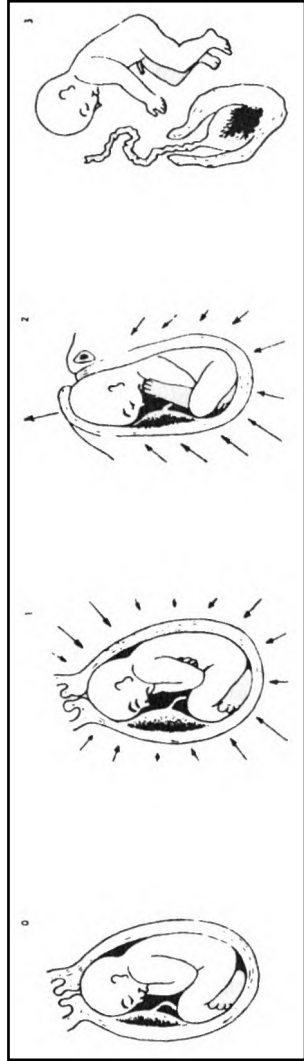
*undisturbed intrauterine life:* realistic recollections of "good womb" experiences; "oceanic" type of ecstasy; experience of cosmic unity; visions of Paradise; disturbances of *intrauterine life:* realistic recollections of "bad womb" experiences (fetal crises, diseases and emotional upheavals of the mother, twin situation, attempted abortions), cosmic engulfment; paranoid ideation; unpleasant physical sensations ("hangover," chills and fine spasms, unpleasant tastes, disgust, feelings of being poisoned); association with various transpersonal experiences (archetypal elements, racial and evolutionary memories, encounter with metaphysical forces, past incarnation experiences, etc.)

immense physical and psychological suffering; unbearable and inescapable situation that will never end; various images of hell; feelings of entrapment and encagement (no exit); agonizing guilt and inferiority feelings; apocalyptic view of the world (horrors of wars and concentration camps, terror of the Inquisition; dangerous epidemics; diseases; decrepitude and death, etc.); meaninglessness and absurdity of human existence; "card-board world" or the atmosphere of artificiality and gadgets; ominous dark colors and unpleasant physical symptoms (feelings of oppression and compression, cardiac distress, flushes and chills, sweating, difficult breathing)

intensification of suffering to cosmic dimensions; borderline between pain and pleasure; "volcanic" type of ecstasy; brilliant colors; explosions and fireworks; sadomasochistic orgies; murders and bloody sacrifice; active engagement in fierce battles; atmosphere of wild adventure and dangerous explorations; intense sexual orgiastic feelings and scenes of harlems and carnivals; experiences of dying and being reborn; religions involving bloody sacrifice (Aztecs, Christ's suffering and death on the cross, Dionysos, etc.); intense physical manifestations (pressures and pains, suffocation, muscular tension and discharge in tremors and twitches, nausea and vomiting, hot flushes and chills, sweating, cardiac distress, problems of sphincter control, ringing in the ears)

enormous decompression, expansion of space, visions of gigantic halls; radiant light and beautiful colors (heavenly blue, golden, rainbow, peacock feathers); feelings of rebirth and redemption; appreciation of simple way of life; sensory enhancement; brotherly feelings; humanitarian and charitable tendencies; occasionally manic activity and grandiose feelings; transition to elements of BPM; pleasant feelings can be interrupted by umbilical crisis: sharp pain in the navel, loss of breath, fear of death and castation, shifts in the body, but no external pressures

## STAGES OF DELIVERY



the deeper roots of emotional disorders reach into the transpersonal domain and appear related to an archetypal constellation, a theme involving past incarnation, elements of animal or plant consciousness, or other forms of transpersonal phenomena.

Emotional, psychosomatic, and interpersonal problems can thus be associated with any level of the unconscious or with all of them. Many symptoms persist until the individual experiences and integrates the perinatal or transpersonal themes which are their generating matrix. For problems of this kind biographical work tends to be ineffective. No existing system accommodates the entire spectrum of the psyche relevant for effective therapy. Rigid adherence to any of them is therefore ultimately counterproductive, anti-therapeutic and self-defeating. The data from LSD psychotherapy provide strong support for "spectrum psychology" in Ken Wilber's sense. According to Wilber,<sup>18,19</sup> various systems of psychotherapy offer useful models for specific bands of the consciousness spectrum, but none should be understood as a comprehensive description of the psyche in its totality. The process of deep self-exploration and personality transformation transcends all existing psychological theories.

Observations from psychedelic therapy and nondrug experiential work suggest a new understanding of psychogenic symptoms. A symptom represents in the first approximation blockage of energy and in further analysis a condensed experience or, more characteristically, a layered system of experiences. The therapist's task is to create a context which allows deep self-exploration. Where the process is sufficiently active and the individual has had to spend enormous energy to repress it, this in itself may be enough. Otherwise, the therapist or facilitator must also offer a technique to activate the unconscious—evocative music, respiratory maneuvers, intense body work, or, in the extreme, psychedelic substances. Under these circumstances, the energy is freed and finds some peripheral expression—in powerful emotions, motor and vegetative manifestations, or perceptual phenomena such as visions or physical pain. Ultimately the symptom will be transformed into experiences and consumed.

The therapist should not have any investment in a particular theory about the experiences that emerge. It is essential to support the process even if one does not understand it. Biographically oriented psychotherapy often allows the client to "understand" where the symptoms come from, without actually affecting the problem. This new approach typically relieves the problem, although it might be hard to say how and why. In any case, intellectualizing should come only *after* the process is completed rather than "on the line." A completed and well-integrated experience does not require much cognitive work. It either automatically provides understanding of a new kind, or creates a state of mind in which conceptual explanation seems irrelevant. The follow-up consists in the client's sharing of the adventure in consciousness rather than in laborious interpretations.

The point is to free oneself from conceptual bias and become open to the intrinsic trajectory of the healing process. This approach resembles the therapeutic strategy of Carl Gustav Jung. Jung trusted the cosmic wisdom of the collective unconscious to surpass by far the knowledge of any individual therapist. He saw his task as helping to establish contact between

the client's ego and his self. Under these circumstances psychotherapy ceases to be "treatment" of one person by another and becomes a human encounter and shared adventure of higher learning.

### DRAWING OF A NEW PARADIGM

My mystical emphasis and treatment strategy discouraging cognition might create the impression of advocating irrationality and conceptual anarchy. But my intention is not that at all. I want to suggest that the old paradigms in psychiatry have now outlived their usefulness and are impeding progress. Instead of repressing observations because they do not conform to established ways of thinking, we should try to formulate new paradigms. As Thomas Kuhn pointed out in *The Structure of Scientific Revolutions*,<sup>9</sup> a paradigm should not be confused with an accurate description of reality. It is a useful organization of existing data, a temporary conceptual tool that should be replaced when it no longer serves its purpose.

For 300 years, Western science was dominated by the Newtonian-Cartesian paradigm, which describes the universe as a gigantic assembly of separate objects interacting deterministically in a three-dimensional space and linear time. Consciousness was seen as an epiphenomenon, a product of the central nervous system. Psychiatry and psychology have modeled themselves on this mechanistic system. The traditional definition of sanity involves perceptual, emotional, and cognitive congruence with the Newtonian-Cartesian image of the universe, not as a pragmatically useful model, but as the only accurate description of reality. Substantial and critical deviations which seriously challenge the Newtonian-Cartesian postulates are labeled as psychoses. Failure to reflect correctly and accurately the "objective reality" implies a malfunctioning of the organs of perception and analysis, and is seen as a disease. Mental health is defined as absence of psychopathology or psychiatric "disease;" the goal of psychoanalysis, Freud said, is to replace the extreme suffering of the neurotic patient with the normal misery of everyday life. An alienated, unhappy, and driven existence dominated by excessive power needs, competitive urges, and insatiable ambition can still fall within the broad definition of mental health.

In the new scientific world view of the quantum-relativistic revolution, all the assumptions of the Newtonian-Cartesian paradigm have been transcended. The universe is not depicted as a gigantic supermachine, but as a unified web of events or processes. Physicists are becoming increasingly open to the possibility that consciousness is a primary attribute of existence. Their image of the universe is converging with the mystical world view.

Until recently, disciplines that originally emulated mechanistic physics, such as biology, medicine, psychiatry, and psychology, have ignored these revolutionary developments and continued to use Newtonian-Cartesian principles as absolute criteria of science. But it has become increasingly difficult to resist the influx of new data. However

illogical and paradoxical it might seem, humans seem to be able to function under certain circumstances as unlimited fields of consciousness transcending time, space, and linear causality. We have to say that a human being is both a separate material entity and an unlimited field of consciousness.\* Two extreme experiential modes reflect these complementary aspects of human nature. The first can be called matter-related consciousness ( $C_m$ ), and the second holonomic consciousness ( $C_h$ ), in reference to David Bohm's and Karl Pribram's holonomic theory.

Many experiences labeled as psychotic can be seen as manifestations of the holonomic mode. This is particularly true of perinatal and transpersonal phenomena. A new definition of health would include recognition and cultivation of the two complementary aspects of human nature. According to this concept a "mentally healthy" person functioning exclusively in the  $C_m$  mode, even though free of manifest clinical symptoms, is cut off from a vital aspect of his or her nature. Such a person has a linear concept of existence dominated by survival programs and sees life in terms of exclusive priorities—myself, my children, my family, my company, my country; he or she is unable to see and experience the whole context. For a person whose life is dominated by this mechanism, nothing is enough and no possessions and achievements bring genuine satisfaction. This strategy produces what the subjects themselves call a "rat-race" or "treadmill" life, infused with a deep sense of meaninglessness, futility, or even absurdity that no amount of seeming success can dispel. Exclusive preoccupation with past and future limits the awareness of the present moment and thwarts the capacity to draw satisfaction from simple situations in life.

This pattern also produces a deeply felt conflict between the immensity of the projects that should be accomplished and the limitation of the biological life span, inability to tolerate impermanence and aging, and deep underlying fear of death. Projected onto the social and global scene, it focuses on external indexes and objective parameters as indicators of well-being and success in life. Short-sighted overemphasis on unlimited growth, egotistic and competitive orientation, and inability to see life in the totality of its cyclical patterns and interdependences combine in a fatal trajectory toward nuclear holocaust or global ecological disaster.

On the other hand, extremes of the  $C_h$  mode are incompatible with physical survival. Inability to experience oneself as a separate entity results in disregard for personal safety, elementary hygiene, and even supply of food and water. Individuals experiencing this mode have to be attended by others who take care of their basic needs; this is illustrated by many stories about masters experiencing samadhi or satori. In the pure  $C_h$  mode all needs are satisfied, things are perfect as they are, and there is nothing to do and nowhere to go. The world of separate beings and separate objects appears to be an illusion; the underlying unity of all existence is the only reality.

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\*A scientific precedent for this approach is the *principle of complementarity* formulated by Niels Bohr in regard to the wave-particle paradox of light and subatomic matter.

Both extremes are incomplete and undesirable. Existence recognizing only the  $C_{\infty}$  mode could be at best referred to as "lower sanity." The experience of the  $C_{\infty}$  mode in the extreme and pure form is very valuable, but only as a transitional stage, to be followed by good integration with the  $C_0$  mode. Genuine mental health or "higher sanity" requires a balanced interplay of both complementary modes. For full and healthy functioning in this sense, it is absolutely necessary to transcend dualisms, particularly the dichotomy between the part and the whole. Then identification with the ego becomes playful and tentative rather than absolute, mandatory, and fraught with irrational survival programs. Identification with material existence becomes pragmatic, rather than philosophical.

Neurotic and psychotic symptoms appear to be interface phenomena, combining and confusing elements of the  $C_{\infty}$  mode and the  $C_0$  mode. Illogical and inappropriate ways of reacting to present material circumstances become perfectly understandable as parts of the  $C_0$  gestalt that is trying to emerge. The basic principle of symptom resolution is a full experiential shift into the corresponding  $C_0$  themes; this requires a special context with unconditional therapeutic support for as long as the unusual experience continues. When this process is completed, the subject returns fully to everyday consciousness. The experience of the  $C_0$  mode will alleviate or eliminate the symptoms, but it will also make the commitment of the subject to the  $C_{\infty}$  mode looser and more tentative. When the underlying gestalt is a powerful perinatal or transpersonal experience, this typically leads to a process of spiritual awakening or opening.

This approach abandons the practice of using psychopathological labels on the basis of the content of an experience. Many of the experiences that used to be considered psychotic can be easily induced in a random sample of the population not only by psychedelic drugs, but by such simple methods as meditation, hyperventilation, and evocative music. In addition, these phenomena occur spontaneously much more often than mainstream psychiatry has ever suspected. The use of stigmatizing diagnoses and deterrent forms of therapy has discouraged people from admitting even to close friends and relatives that they have had perinatal or transpersonal experiences. Psychiatry has thus obtained a grossly distorted image of human experience.

This new definition of normality and pathology depends not on the content of the experience, but on the capacity to integrate it into one's life. In doing this it is essential to create special circumstances and rules which differ from those of everyday life. In the new approach, psychogenic disorders reflect confusion between the  $C_{\infty}$  mode and the  $C_0$  mode, or the subject's inability to confront the emerging  $C_0$  material and integrate it. The general strategy is full experiential immersion in the surfacing theme and, after its completion, return to an uncomplicated and full experience of the present moment and present location. The attitude toward what conventional psychiatry considers symptoms of mental disease is more important than the symptoms themselves. They can be seen as an opportunity to liberate oneself from unfulfilling imprisonment in the  $C_{\infty}$  mode. Psychogenic symptoms herald the emergence of the  $C_0$  mode elements and reflect resistance against them. Psychiatry which suppresses

the symptoms and returns the individual to inauthentic existence interferes with a process that could lead to a fuller and more satisfying way of existing in the world.

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# **PSYCHOLYTIC THERAPY**

## **Hallucinogenics as an Aid in Psychodynamically Oriented Psychotherapy**

**Hanscarl Leuner**

### *Rationale, Technique and Clinical Examples*

Our first attempts to use hallucinogenics as an aid in psychotherapy date back to 1956. They followed the development of the daydream technique of Guided Affective Imagery, an effective psychodynamically-oriented short term psychotherapy (Leuner, 1978). Seeking a drug to intensify the imaginative experience of the daydream, I came across lysergic acid diethylamide. I reported my initial results at the International Psychotherapy Convention in Barcelona in 1958.

In 1960 I organized the first European Symposium on Psycholytic Therapy in Göttingen, Federal Republic of Germany, out of which a European Study Group with eighteen treatment centers was later formed. The aim was to expand the spectrum of psychotherapy to include chronic cases up to then considered untreatable, and to include patients unable to perceive their own feelings and conflicts. Certain symptoms such as homosexuality, alcoholism, borderline psychosis, and paranoia were influenced positively in a relatively short time. The peak of this work was reached in the sixties.

Under the influence of hallucinogens, a strongly emotional, associative way of thinking appears; emotions, feelings, and moods are intensified and disinhibited. The result depends on the setting (external surroundings), the behavior of the experimenter, and the "set"—the often unconscious attitude, preparedness, and goals of the participant. For example, if the set is religious and the setting a religious service, the hallucinogenic drug can produce a profound religious experience. In the psycholytic use of hallucinogens, set is established by thorough preparation of the patient with a psychoanalytically-oriented case history and

preparatory conflict-centered therapy which leads to the conviction that the patient's illness is the result of disturbed emotional relations with his nearest relatives in childhood. The setting is a friendly, cosy living room with an interested, understanding therapist present.

The correct dosage is one that evokes the desired psychodynamic material but at the same time allows part of the patient's reflective and observing ego to remain intact so that he will not be flooded with a glut of experiences, which would lead him to the edge of an experimental psychosis. Thus the dose must be adapted to the individual, and under certain circumstances must be changed.

The various hallucinogenic drugs available have surprisingly similar effects, but they differ in duration of effect and in the extent to which they are completely eliminated by the body. LSD-25 is effective for 5-6 hours with after-effects which last up to 12 hours. Psilocybin is effective for 5 hours with no aftereffects; its derivatives CEY 19 and CZ 74 last 3 hours and the effect ends abruptly, with no aftereffects whatsoever. In my opinion, the latter two are the ideal drugs for psychotherapeutic purposes. Tryptamine derivatives should also be mentioned; their effects sometimes last only an hour, but there are undesirable side effects such as an increase in blood pressure.

The intoxication can be broken off if necessary. First, psychotherapeutic measures should be taken to try to counteract the rare adverse reactions. If this is not successful, then 10 mg of Valium in a precisely graduated dose should be administered intravenously.

What kinds of psychodynamic phenomena are activated in the hallucinogenic visions? Four categories should be mentioned:

- a) Visions occur which resemble those of the daydream technique of guided affective imagery (Leuner, 1978).
- b) The patient imagines—occasionally with a sense of horrible reality—scenes from early childhood (age regression) extending back to the first 6 months of life. Some authors maintain that these scenes go back to the intrauterine phase. They are accompanied by generally strong, negative feelings and emotions. If they are re-lived thoroughly and the pain is experienced, these experiences lose their pathological effect.
- c) Emotions are transferred to the therapist, who can provide a corrective, positive emotional experience—for example, showing warm parental interest, or permitting forbidden feelings and fantasies about sex and aggression.
- d) Patients develop associative cross connections and recognize the psychodynamic coherence of their symptoms and neurotic maladaptations. They also experience resistances and defense mechanisms directly.

In psycholytic therapy, one must always bear in mind that the drug is merely a tool. The psychotherapist must be experienced with drugs, but his or her special interest should be a psychodynamically oriented analysis of the transference and counter transference.

1. *The preparatory phase:*

This starts with the initial conversation, the recording of a case history, and a clarifying conversation about the working relationship. Consideration of eventual counterindications or a possible threat to an unstable patient with a weak ego must be weighed carefully.

2. *The period of therapy:*

This consists of only a few sessions when the goal is to continue a psychoanalytic or psychodynamically oriented therapy already in progress with the aid of a few hallucinogenic sessions, and also when the drug is being used as a trial treatment to decide to what extent a patient would open himself up in psychodynamically-oriented psychotherapy. The patient should decide of his own free will to accept the therapy and should be assured that he can withdraw at any time. Continuous long-term therapy (8 to 40 sessions) may be indicated in especially serious cases, either on an inpatient basis or in the form of so-called clinical interval therapy. (The first form can lead to the second.) At first, therapy sessions take place every 2 weeks or every 4 weeks. In interval therapy, the patient stays in the hospital only for the drug sessions—a day and a night or two days—and lives at home the rest of the time.

The session lasts 5-6 hours. To eliminate disturbing stimuli, the patient lies in an attractively furnished, darkened room and the therapist is present the whole time (with occasional exceptions). The total therapy plan includes a whole set of activities. In the morning, a group of three to five patients meets for a short discussion at the hospital. The night before, most of the patients have already worked through current problems, state of the treatment, etc. in an individual interview with the therapist.

Following the psycholytic session, the patients are usually exhausted and have to rest. Later, creative therapy is offered during which the group can paint or model clay to represent the content of the hallucinogenic experiences. In the late afternoon, a group session in the presence of the therapist is held so that the patients can exchange individual experiences and arrive at initial ideas, associations and interpretations. The patient listens at home to the tape recording made during the hallucinogenic session and makes a transcript.

3. *The post-therapy phase:*

This phase, during which psycholytic sessions rarely if ever occur, serves the sole purpose of a dynamic character analysis. The patient is usually well prepared for this because the preceding psycholytic experiences make him much more open emotionally. The effects last up to a year, as the patient confronts both other people and his own circumstances with an increasingly realistic attitude.

### *Clinical Examples*

Here is a considerably abridged case history. Miss L., a twenty-three year-old University assistant was an educated, overintellectualizing young woman of the schizoid, hyperaesthetic type. The diagnosis was serious

recurrent neurotic depression with suicidal tendencies. For the previous 8 weeks she had been seriously depressed, indifferent, helpless, and suicidal, with aggressive outbursts against her parents and a tendency towards self-mutilation; she lacked appetite and was emaciated. Since the age of thirteen she had suffered six similar but less serious depressive periods of shorter duration. They always occurred when she was disappointed by boyfriends. In her personality structure, strong depressive and schizoid elements predominated.

*Therapy:* Duration about 3 months; twelve psycholytic sessions with 60-280 mcg LSD-25 weekly and about four individual psychotherapeutic sessions weekly.

*Result:* Immediate remission. Follow-up 10 years later: Absolutely no depressive reactions, not even minor ones. On the contrary, clear signs of a restructuring of the personality: successful work in her profession as university assistant, normal reaction to the death of her father; she has been happily married for 7 years and participates with satisfaction in social activities.

The following passages from the therapy partly reveal the dynamics of the complicated therapeutic process.

*Transcript from the first session:* "My second experience concerned my kindergarten days. I remembered my playmates, the arts and crafts and the room where it all took place, the toys, the playground. I remembered how I waited for my mother to pick me up and I remembered that she was often the last mother to arrive. I also recalled with sadness that my friend James played more with my girlfriend Eva, who looked like my sister Joyce and had prettier pigtails, than he played with me...."

*Comment:* Typical age regression under the influence of LSD which represents the central topic of abandonment and the personal problem of rivalry for male attention, and infantile root of depressive reactions.

*From the second session:* "...I got a lot of satisfaction from the second treatment, especially because I tore up a whole lot of newspapers and cardboard boxes and thus let off some of my aggressions. Afterwards I felt as though nothing could affect me and that I was no longer under the pressure which I had always felt at home and elsewhere. I felt an extreme need for love..."

*Comment:* Characteristic for certain episodes of therapeutic significance—working off of aggressive impulses with the feeling of liberation from conformity and excessive educational pressure. The problem of lack of love becomes clear for the first time. "...I saw Hitler several times. Then something very strange happened: Hitler became my father, drove our car and came into our house...."

*Comment:* Freudian dream work: Hitler as a symbol of male brutality is conflated with the father.

*After the fourth session:* "...I discovered a letter from my friend John in the hotel (it arrived after the session). It was obvious that John had lost all the feelings that he had once had for me. I was deeply injured by the letter, became aggressive and wanted to fling things around the room. A deep depression began and for the next 24 hours, I was full of resentment, distrusted everyone, even the success of my psychotherapeutic treatment. I had a strong desire to commit suicide and asked my mother to help me kill myself...."

*Comment:* Such outbreaks can lead to subsequent reactions, which is why follow-up treatment in the hospital is necessary; for example, in the form of group therapy. Insight can be gained from the sudden change from aggression to depression with transference of emotions to the therapist and the treatment. Ultimately, the aggression is self-directed.

*From the fifth session:* "...My thoughts then turned to Queen Elizabeth of England. I projected myself into the Queen. Her authoritative look appealed to me. I loved the idea that a woman had power over so many men. Standing on the Rock of Gibraltar, I looked down on the British fleet which was obviously in the process of winning a battle...as if her men were fighting against Hitler's power...."

*Comment:* Identification with the majestic and at the same time male-powerful ego ideal (the Queen) is connected with resistance to the brutal father image of Hitler.

*From the sixth session:* "...During this session it became very clear to me that I have an inferiority complex. I really didn't want to accept it. I like to visualize extremes; for example, when I am momentarily occupied with a difficult problem I immediately want to die in order to free myself from the hardships of life. It's true that I'd like life to be kind of a permanent Christmas... This treatment was very depressing and the most unpleasant I've ever had . . . ."

*Comment:* She reacts to her first insight into her disturbed self-esteem and her resistance to the demands of reality by creating a narcissistic dream world. This produces resignation and escape into isolation (depression). Here, for the first time, the patient becomes emotionally aware of this process. "...I was dependent on my father because he took care of me. I was afraid to hurt his feelings with my attempts to grow up ... It became clear to me that my relationship with my father had adversely affected my relations with young men. Unconsciously, I was always looking for a new father when I had a new boyfriend...."

*Comment:* The emotionally close but ambivalent relationship with the father is very strongly felt and its projection onto male partners is recognized.

*From the eleventh session:* "...My resistance led me to distrust the doctor slightly...his indifference destroyed my efforts to be a cooperative patient. I fell into a depression. I felt that the whole therapy was a failure.

Rationally, I knew that this was an exaggeration but ...I was helpless and unable to control myself. The aggression I felt towards my father was directed against the doctor as a Jew, who wanted to get me into his clutches as a German, i.e., a Nazi, in other words, a brutal man ... with cold, indifferent feelings about women. He became the personification of all the things I despised and feared in men.

*Comment:* The relationship to the father is projected as a strong image onto the doctor; fear and hatred of the male partner are relived realistically and worked off. The rational control of the patient contrasts with her emotional reaction. This example illustrates the following dynamic factors:

- a) Unconscious psychological material including traumatizing key experiences from early childhood is activated. Psychological defense mechanisms are loosened. This can lead to affective reactions with productive outbursts of vital impulses and instincts which have been repressed up to now.
- b) The patient gains insights into the repressed material, the dynamics of the intensified defense processes, the formation of substitutes, and neurotic maladaptation. Infantile miscalculations and expectations can be corrected in the face of reality.
- c) Transference is activated and the fears, projections, and demands of early childhood are experienced in the relationship to the therapist.

### INDICATIONS AND COUNTERINDICATIONS

In the literature between 1953 and 1965, a total of 1600 cases were treated, followed up, and published in 42 articles by 28 authors. Of these cases, 68 percent were described as especially serious and chronic. The main indications in descending order (percentages give the success estimates of the therapists) were anxiety neuroses (70 percent), depressions (62 percent), character neuroses and psychopathy (61 percent), sexual perversions (50 percent), compulsion neuroses (42 percent), hysteria and conversion symptoms (32 percent), alcoholism and drug addiction (31 percent). The first three diagnoses can be viewed as the core group of symptoms for which this therapy is best-suited (Leuner, 1971). It should be remembered that, as in all psychotherapy, the treatment prognosis depends not so much on the diagnosis as on individual factors.

Absolute counterindications are organic brain disease, pregnancy or possible pregnancy, liver damage less than 2 years before treatment, endogenous depression and mania, acute or chronic schizophrenia, and mental deficiency (IQ below 85). Relative counterindications are lack of motivation for psychotherapy, hysteria with a tendency to act out, psychopathy, signs of delinquency, and infantile personality. The prognosis is especially favorable for individuals who exhibit a strong ego, have proven themselves in a profession, are genuinely suffering, and are strongly motivated to start therapy.

There is practically no danger in psycholytic therapy provided that the indications, set, setting, and dosage are appropriate and a therapist trained in psychodynamic therapy conducts the treatment personally and also supervises the therapeutic team. Death and damage to health have never occurred. Nor has drug dependency of any kind. Under conditions of black market abuse, where precautions are ignored and, in particular, the drug's purity or even identity is not known, the dangers increase greatly. I would like to re-emphasize that the therapist should have clinical experience with hallucinogenic drugs. I also support the demand of many authors that the therapist should have some personal experience in psycholytic therapy; only in this way can he gain a genuine understanding of the uniqueness of the experiences which occur during a psycholytic session.

### TREATMENT SERIES WITH EVALUATION BY THE PATIENT

This twenty-four year-old female goldsmith provides an excellent example of the benefits of psycholytic therapy for patients who, because of extreme taciturnity and inability to communicate, are hardly or not at all accessible to verbal psychotherapy. The patient was an immature person with serious difficulties in cutting her ties to her parents. Her father came to me first and asked me to treat his daughter. According to the father, she was extremely shy, reserved, and hardly said a word even to him. She had been fired from her job and she did not know what to do; she expected others to make her decisions for her and now had a vague idea of going to school "to gain knowledge." She rejected men who were interested in her because they reminded her of her stepfather. The parents were divorced when the patient was six years old. She and her sister lived with the mother in a distant city. The mother, a very passive woman, remarried when the patient was fourteen and so withdrawn that she was afraid to answer the phone.

At that time, she fell ill with a tubercular pleuritis and spent 6 months in a sanatorium. Her relationship with her father was good but her stepfather intimidated her. She had always had feelings of inferiority and downgraded her abilities. In school she did poorly, despite above-average intelligence. She did not trust herself to say a word in class for fear she would be laughed at when she made a mistake. During her apprenticeship to a goldsmith in Hamburg, she had practically no contacts except one dormitory friend. She had never had a boyfriend because she expected too much and constantly compared the young men with her brother or father. Her goal in therapy was to become "freer, not so inhibited with others, more open, more self-confident." Her explanation for her inhibition was that her stepfather preferred her sister and praised the sister in her presence. She had repressed all the things that bothered her and set up a hedgehog system of defenses during puberty.

She had a marked depressive character structure with hysterical elements; her intellectual ability was good to above average; she was emotionally warm and concerned. She learned her trade at the wish of her stepfather. Her efforts in the workshop were clumsy and she suffered under

a faultfinding boss. She tried too hard to conform to her environment, couldn't bear criticism, suffered from the fact that her mother meant little to her because "just like me, she was terribly inhibited." The patient was frequently ill with strep throat and other infectious diseases. A series of illnesses, besides the tuberculosis, had led to repeated hospitalization. She was afraid of men and consciously avoided them. She was often at odds with her younger sister. She got along well with her brother, traveled with him, and regretted that she was not able to grow up with him. His open manner loosened her tongue and encouraged her to speak. She did not trust herself to talk to her father. Generally he had nothing to say to her, although he wanted her to talk over her wishes and problems more often with him.

The indications for psycholytic therapy were as follows:

- a) She had good motivation, with the necessary perceived suffering.
- b) Verbal psychotherapy would take a long time because she was so strongly inhibited.
- c) She was not capable of much insight. Her view of life was that of a 12-14 year old (infantile personality).
- d) The father was prepared to allow the patient to live in his house only for a foreseeable period of short-term therapy.
- e) The atmosphere in the marriage of the mother and stepfather was therapeutically unproductive and hard to bear. A short period of psycholytic therapy can produce a therapeutic breakthrough that allows such a patient to become independent, clarify her situation, choosing this method instead of long-term psychoanalysis or treatment with affective imagery.

Seven sessions were held, as described above, biweekly over 3 months (Sept. 1971 to Jan. 1972), with the aid of the short-term hallucinogenic drug CZ-74. The preparation was injected intramuscularly in small doses (between 12 and 18 mg.). There were also one or two weekly individual sessions. The patient painted 32 pictures; they provided insights which did not emerge in the simple, detailed therapy reports which she diligently prepared. These paintings gave her pleasure and a feeling of self-confidence. The working through of the daydreamlike content of the psycholytic sessions remained simple, and persisted at a naive, conventional, school-girl level.

Here are some excerpts from the transcripts of the therapy sessions:

*First Treatment:* (Sept. 28, 1971) 10 mg. CZ-74. During the entire time, I convulsively clamped my teeth together strongly. When the dreams ended and the light went on again in the room my legs were as weak as rubber for quite some time. For a long time, I didn't say anything, because my teeth were still clamped together. I had lunch in the dining room—it was disgusting soup with lots of things in it but I ate it with complete indifference because I was still occupied with the dreams.

*Comment:* The clamping of the teeth can be viewed as a typical symptom reinforcement by activation of a defense mechanism in regard to conversation, a positive indication that the symptom of inhibited oral communication will be worked out later.

*Second Treatment:* (Oct. 12, 1971) 12 mg. CZ-74. After the injection, the dreams came much more quickly than the last time. . . .My father was close by. . . .My mother was there but not within reach. My mother and my father had some grudge against each other. I only noticed a terrible tension. The whole family, or all those who were present, were involved in this tension. I kept trying to get near to my father. I didn't succeed. He kept avoiding me and preferred talking to his colleagues.

I heard plates rattling and water running. I frequently looked into a corner with pink tiles. It was very filthy and had a dark hole in the ground below. I don't know how it happened, but I kept sliding nearer to the hole until I was washed down the hole along with all the dirt. I was furious, nobody needed me, I was out of place, I was part of the garbage. . . .My teeth chattered and then clamped. I fell from one dirty hole into the next. My father was always nearby. I became more and more furious with him. The colors that I saw during this were black, brown, and green. But the whole time I heard the noises of rapidly running water and pigs' grunts. . . .Everything was wet and trickling and splashing. Nobody could be seen or reached. I wanted to go to my mother to get close to her but I didn't succeed. She needed help, but I couldn't give it. . . .Then a big wall with a large wrought-iron gate appeared. I knew that this was the cemetery in Göttingen. I went through this gate; it was terribly sad and my mother was especially sad. Perhaps this was the burial of my mother's mother or father. Suddenly a large, thick tree appeared before me. It had a square trunk and large, long, and wide branches. Some branches hung down to the ground. My mother and I were sitting in the tree and my father was below sawing through the trunk. We fell down. I didn't notice the fall. We never arrived on the ground. . . .Fury, fear, and anger and also tears which were quickly repressed frequently appeared.

*Comment:* Real scenes from childhood are mixed with symbolic ones. Frustrations are worked through and suffered through. Feelings of abandonment and sadness because of separation from the father appear.

*Third Treatment:* Oct. 26, 1971) 14 mg CZ-74. My third treatment was once again very colorful. But it still dealt with dirt and garbage. . . .I saw terribly trashy furniture and a room that was horribly furnished. Every where you looked there were bells and china figures lined up. I could also see sexual organs of both sexes, but I couldn't exactly see them—as though they were packed in or covered by plastic. They moved around—just like the soft masses—somewhere in the narrow area. I could see very many distinguished people and they let me stay with them but not for long and then I was sent off. I wasn't worthy to be in their company, to be allowed to remain. Papi was really somebody. Everybody admired him. . . .My instinct says that it's Grannie, his mother, who really loves Papi and can't quite let him go. Grannie is the one who prevents Papi from coming to

Mommy and me. But Papi doesn't have the strength nor the courage nor the ability to do anything against the will of his mother. . . .Then, towards the end, I'm caged in. Everybody wants me to be put under medical surveillance so that the neighbors or friends of the family don't find out that my parents have a stupid, abnormal child. . . .No one is allowed to talk to me. A whole bunch of nurses are standing around me and are holding me tight. People who come to visit me are only allowed to stand behind a glass window if they want to see me or greet me. . . . I am furious that no one likes me or talks to me.

In this dream, too, I can't say a word. I have to go to the bathroom urgently but I don't have the courage to pee in the bed—much less to get up. I have such strong inhibitions when thinking of the people at the door that I hold it in. It took some time but I did it.

*Comment:* "Trashy pictures" indicate resistance to feelings. The topic "being pushed off" is worked out in additional respects. The content becomes cognitively clearer and more obvious. For the first time, insights into the family dynamics are gained. Self-assertion in overcoming shame and inhibitions is practiced more realistically (trial action).

*Fourth Treatment:* (Nov. 9, 1971) 18 mg. CZ-74. I guess I've accepted the fact that our family can't live in harmony and peace. My father is frequently gone. I see him as somebody who is very far above me and whom I'm supposed to obey. I didn't mind obeying because I really loved my father. I did everything for him. To me he was like the head of a gang and I had to do illegal things for him. I stole and did everything that my father wanted me to do. He doesn't want to see us anymore, we're too inferior for him. I always envisioned him as a thorny hedge or something terribly pointy which I couldn't get near to. I also brooded about myself. Why don't I go to him first, why don't I call out to him? My teeth are tightly clamped and again I can't say a word. . . .

Yes, I always felt inferior. Like a piece of dirt in the gutter, like a little dwarf who helped her father steal and do other awful things. . . .But then my sister appeared. Angelika was born. I kept hearing, "What should we tell the children? How shall we tell them? Angelika was born and I was very happy because I hoped that my parents' marriage would improve. Because the terrible things they did to me they certainly wouldn't do to such a tiny child. I dreamt of wonderful days, better times at last.

The patient then experiences the division of household property at the separation of her parents; her mother, her sister, and she herself leave, a sad scene in which she finally develops a terrible anger towards her father and is grief-stricken that her brother remains with the father. " . . .What really struck me unpleasantly was that I entered body and soul into the role my surroundings expected of me. I was dumb—I was supposed to think so and then I was."

*Comment:* The contents are cognitively clear. Memories are mixed with insights which are accepted and form statements. In her handling of the Oedipal problem, there are signs of complete subservience.

*Fifth Treatment:* (Nov. 23, 1971) 18 mg. CZ-74. The tree appears again, this time standing in a bare plateau over which the wind is blowing. She is alone and doesn't know where to go or what to do. She still can't produce a sound. She reacts to this failure by imagining depressing pictures, and relives the great emptiness which follows the loss of her father and brother. "Terrible faces with evil eyes and sharp teeth" appear. The figure of a huge eagle appears and she identifies with it. But the eagle is crippled and can't fly, and she can't rise from the spot. Also, she is told that she's a big girl now and has to take care of herself and that her father doesn't love her. Afterwards, she observes that she can now speak with her father better than before. . . . Her hatred of the male sex now becomes clear and turns into self-hatred. She experiences great distress during the session, but she is unable to discuss it with the therapist, because she believes "You have to try to work things out for yourself." She falls into desperation: "Nobody wants to be with me—if I kill myself, then that won't make much difference. Nobody will even notice it." She starts an imaginary wrestling match with her father during which, at the beginning, she feels very strong—constantly pins him down so that he gets smaller and smaller. She doesn't feel guilty about this, but she does leave a part of him there so that he is able to rise again to completely overpower her. Again and again the feeling arises that "she's a little piece of dirt."

" . . . When I arrived home, I was a completely different person. I had never before been so merry and good-humored after a session. My father, too, with whom I immediately discussed my dream, was also so cheerful and open that I felt even merrier. But the next day, Wednesday, I had a very bad day. I was in a really bad mood and was insolent and curt to everyone. The mood I had had right after the dreams returned.

*Comment:* Fantasies about male identification and strength (identification with the aggressor—father) occur and seem to lead—despite an only partial success—to a temporary change in behavior towards the father, i.e., to more self-confidence.

*Sixth Treatment:* (Dec. 7, 1971), 8 mg CZ-74. "I didn't feel very good today. I'm not content with myself. My teeth aren't quite as tightly clamped as usual but I still wasn't able to say a word." The patient regretted her helplessness in the face of her father's power and her inability to help her mother. An elderly couple appears. They are sitting on a sofa and smiling at each other. The two figures ask her to stroke them. Later she recognizes that these are her paternal grandparents. Between these scenes, snakes, spiders, sharp teeth, and intestines with blood and thorns appear. She feels a strong sense of disgust and fury towards her surroundings, but recognizes that she has to go through "these terrible things" in order to push her way through to positive experiences later.

She imagines herself in the role of a six-year-old boy whom the father dearly loves because the boy is able to do everything well and is good at sports. This role makes her happy because everyone is nice to her. But at the end, they recognize that she is a girl and turn away from her. Her father leaves her, her grandmother grins. The patient becomes furious, doesn't

understand why girls aren't worth anything. She fantasizes about marrying—if she could only find a partner—in order to be free. But she thinks of her parents' divorce, and "disgusting images of decaying bodies" appear. Her body is torn open by the winds and the sight of the intestines and bones frightens her. Finally she sees herself as a large bird which is no longer prevented from flying, a wonderful role which makes her happy—but she still cannot fly. Her strength and fury continue to mount until she feels as though she'll burst. She is annoyed that she is so weak. At the end of the session, she weeps angrily and afterwards is very relieved.

*Comment:* The role of the mother and the family power play is more clearly recognized, including the role of the dominating grandmother who made her life so miserable. An archaic Oedipal symbolism also appears obscurely. The theme of penis envy emerges, perhaps as a defense against a desire to surrender which was symbolized earlier as bloody and disgusting.

*Seventh Treatment:* (Jan. 13, 1972) 18 mg CZ-74. A long, tight rope is wrapped around the patient and compresses her to a tiny figure. Unexpectedly, however, she grows, lives with her family, and recognizes that she has no real ties to her mother, who was even more taciturn than she.

"...The entire dream time was unbelievably merry. At the beginning, I felt a very strong desire to find a partner no matter what. I wanted a boyfriend so badly. But this problem wasn't nearly as serious as that of breaking my ties to my father. I've been bound to him too closely for too long. Together we're a whole. Suddenly we're separated.... I realized that I wanted to hold on to my father more than he wanted to hold on to me.... The tears slowly ran down my cheeks.

"In between these scenes, I saw the weirdest faces and again a lot of teeth. I could see bleeding open wounds directly in front of me. But the funny thing was, I had to laugh. I sang snatches of melodies under my breath during the whole session.... The I saw a mountain. I was setting on it, I had climbed halfway up. But up to the halfway point I had been supported and pushed by the relatives I mentioned earlier.' As soon as I reached the halfway point, the people who were pushing me fell into the depths below. I couldn't see them any more and was very worried about them. But then I got mad at myself for constantly looking for my relatives and always worrying about them. I want to and must work things out for myself. That would be a joke if I didn't manage that. I felt myself getting lighter and lighter and suddenly I noticed that I was floating. The mountains lay below me, I was free. No—almost free. I was still tied down somewhere with a really tiny spike. I was really flying, but I couldn't quite leave my home base. I believed I would first be really free after finding a nice boyfriend who really liked and understood me.... Then I saw my father, my brother, and myself united in a form. Then it was torn apart. I had the feeling that there were some sort of superior beings there who were helping. It hurt me so much I can't describe it in words. I wept until I felt better....

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<sup>1</sup>Afterwards she recalled her choice of profession. Her mother and stepfather had talked her into doing something which led her to the conclusion: "They'll take care of it, they know what to do."

Afterwards, I felt great, so free and relieved. I sang and laughed about the faces and the long teeth constantly coming at me. The teeth which looked so dangerous weren't really dangerous at all. Some of them even started to laugh along with me. The long, sharp teeth shrank into small blunt ones...

"When I think about how frightened I was to come! I've become a different person in a few hours. My father was separated from me. I was finally free, the terrible things couldn't affect me. I felt the strong need to catch a breath of fresh air. Nurse I. suggested that we go together. It was a wonderful, beautiful day. I am completely happy."

*Comment:* The action of freeing herself from the symbiotic relationship with her father and brother becomes very clear. The wish for a suitable partner, which is still expressed with a certain resignation, is part of this.

*Result:* In the concluding conversation, which took place on Feb. 4th, 1972, the immediate result was characterized by the patient as follows: "I feel great." She feels different, really good. She now knows what she wants. She doesn't feel as "puny" as she did at the start. She has learned to speak more clearly and more freely. She is no longer afraid to take part in conversations with others; she is also able to speak more freely with her father. She can tell him everything. "It's a wonderful feeling."

*Post-therapy examination:* In November 1980—8 years later—I inquired about her present condition by mail. Some excerpts from her answer follow:

November 29th, 1980

Dear Prof. Leuner,

I was very happy to receive your letter, after such a long time. Somehow I had always hoped that you would write. I'd be most happy to answer your questions:

Question 1: Can you still recall the therapy, and what are your main memories of this therapy?

Answer: I remember the therapy quite well. My problem was that I always wanted to do everything myself and never accomplished anything. I was quiet and hoped that other people would do things for me. I didn't want to make a mistake and I didn't want to be laughed at.

Question 2: Do you still believe today that the therapy helped you then?

Answer: The therapy helped me a great deal. I'm certain of that. It only lasted half a year<sup>2</sup> but that was enough for a start.

Question 3: As far as your social behavior, your relations to people in general and your relatives in particular are concerned, please describe your present personal observations in a detailed manner.

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<sup>2</sup>Actually it was only 3 months (excluding interruptions).

Answer: I had to accept the fact that it simply wasn't possible to form a real father-daughter relationship. I was too old for that. I had to live my life. I moved away from Gottingen and soon registered in H. for the examination for the title of master. During this time, much had changed. I saw a lot of people; I was no longer reserved; I was in the midst of things....I met my first boyfriend there. Unfortunately, I still had too many problems and my boyfriend did too. I had to work out my problems and also had to try to understand and accept his. In the long run, it didn't work out. We parted—but unfortunately much too late. Then I went into business for myself; I am now living in the country and have my own workshop. I feel good and I can work independently. I can decide myself what work I want to do and how I want to spend my free time. A lot of people come to visit; they enjoy being with me. They even consider my opinion to be important. When difficulties arise, I'm no longer afraid of them. I've simply gained an incredible amount of courage and I can handle everything that comes my way.

Question 4: Did the treatment have an effect on your professional development?

Answer: My profession was always a big question mark for me. But now I know that I'll remain a goldsmith... Now, where I'm quite alone, everything functions much better. I also work better when I can make my own decisions about how I want to organize my day. I'm my own boss. Things have improved and I'm getting along quite well.

Question 5: Did the therapy have an effect on your personality, on your character, your attitude towards the world, and if so, in what way?

Answer: I can't exactly say whether it had any effect on my personality etc. or whether anything changed. My friends and all the acquaintances I spent time with were certainly involved in the change. I've changed a lot. The therapy made it clear to me that I had to do something and that I had to spend time with different people. Talking, just practicing talking, made me more sure of myself. I'm so happy that everything has continued to work out so well.

Question 6: How would you characterize your present contacts?

Answer: I have a lot of contacts. I didn't want to be alone so I frequently invited people to come. They came often and enjoyed coming. After I broke up with my boyfriend, it became even more important for me that people dropped by. Everybody likes the general atmosphere at my place. They admire me for getting along so well alone and still having time for them.

Question 7: What are your principal leisure time activities at the moment?

Answer: My most recent leisure time activity has been hang-gliding. This has been a great jump forward for me. I had to master my fear—the floating in the air. You can't describe in words what a wonderful feeling that is. You're free and you hold your life in your hands. During the therapy, I was a crippled eagle who wanted to be free and couldn't or didn't trust herself to fly away over the high walls.

Question 8: What are your future goals? Do you have any plans for the future?

Answer: I want to expand my shop so that I get more orders and earn more. Then I'd like to move in with my present boyfriend....

Question 9: Have you been seriously ill since termination of the therapy and if so when and what did you have?

Answer: I've never been sick since.

Question 10: In the last half year have you had any physical or mental problems and if so of what nature?

Answer: I haven't had any problems.

*Short comment concerning the entire therapy:* The supplementary transference situation during our private (nondrug) therapy sessions must be borne in mind. A new, corrective father transference was established through regular conversations (which until then she could not have with her father); and she was assisted in coming to terms with her neurotic needs. At an archaic level, as seen in the paintings, there are conflicts with "evil" introjections, ultimately personified as omnipotent grandparent figures. The patient's realistic recognition of the three-generation constellation and her acknowledgment of the fact that the situation could not be changed (because the mother was too weak) were major steps toward a mature ego.

*Concluding remarks:* As long as the therapeutic process remains at the Oedipal level, we find ourselves, metapsychologically speaking, in safe territory. However, in psycholytic therapy regressions to the anal and oral levels and even to deeply archaic primary narcissistic levels occur almost regularly. This offers certain advantages compared with conventional methods of psychotherapy, including classical psychoanalysis, but also disadvantages in certain cases where it is not advisable to venture into early defense mechanisms and disturbances of the ego. In general, patients with borderline symptoms and those with certain narcissistic disturbances have a good chance of being helped by this therapy. But it may also be extremely dangerous for them if a mature, frustration-tolerant ego structure does not form an effective counterweight. Psychoanalytic opinions about narcissism and pre-Oedipal experience in general are still confused. Perhaps thorough examination of the psychodynamics of regressive processes in psycholytic therapy will help to clear up this problem.

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Part Four

# **PSYCHEDELIC DRUGS AND THE STUDY OF THE MIND**

To limit the analysis of psychedelic experience to problems of drug use and drug effects is to avoid the most important questions. As the choice of a term that means "mind-manifesting" implies, the issue at stake is the human mind and its potentialities. Psychedelic drugs are a way of entering the country of lunatics, lovers, poets, and mystics. In the often-quoted words of William James, "Rational consciousness... is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different. We may go through life without suspecting their existence; but apply the requisite stimulus, and at a touch they are there in all their completeness." (James, 1929 [1902], pp. 378-379). By supplying that stimulus, psychedelic drugs provide an instrument for experimental investigation of what have come to be called altered states of consciousness, or ASCs. Beyond that, the question arises whether, like the deliverances of poets and mystics, they reveal truths that are a complement to those attained by the discursive intellect.

Psychedelic drugs made common coin of the term ASCs by greatly simplifying access to these states and thereby promoting their exploration. As this exploration proceeds, now largely without drugs, a certain degree of consensus (still limited) is developing about the importance and (in some yet to be determined sense) reality of the experiences that occur in such states, and more and more study is aimed at placing these new realities in relation to religious and metaphysical traditions as well as the very different realities of common sense and science. We have already presented Stanislov Grof's effort to explore some of these questions in a therapeutic context. This section consists of a variety of physiological, psychological, educational, anthropological, philosophical, and religious speculations either about psychedelic drugs or occasioned by them. Again the essays are personal and the scientific, philosophical, and religious discoveries are presented as part of the authors' own stories.

Charles Tart and Alexander Shulgin, one a psychologist, the other a chemist, write about the influence of psychedelic drugs on their lives and careers. Tart presents his theory of state-specific sciences and discusses a number of questions about the nature of knowledge and the conduct of life which psychedelic drugs acutely raised for him. Shulgin describes what he believes to be the proper conditions for psychedelic drug experiments and discusses some of the new psychedelic drugs he has synthesized. Ronald Siegel combines reminiscences with amused observations and thoughts about psychedelic drug effects from the point of view of an experimental psychologist. Thomas Roberts' discussion of the educational possibilities in alternate forms of consciousness could as well have been put in the section on uses of psychedelic drugs, since it brings us back to the theme of Roger Walsh's essay: the influence of psychedelic drug experiences on the growth of this new interest in our society. It is sometimes suggested that consciousness disciplines serve as a kind of drug rehabilitation program, but that is misleading. What happens is that psychedelic drugs bring to light certain aspects of the mind that seem to many people worth exploring more systematically.

*Chemistry and Neurophysiology*

Shulgin's account of his chemical experiments brings out the fact that there are now many psychedelic drugs, both natural and synthetic, with different effects that may be used to study different aspects of the mind. Shulgin discusses some of them here; the Chilean psychologist Claudio Naranjo has written about others, especially MDA and MMDA, psychedelic amphetamines which he calls "feeling enhancers," and the natural indole substances harmaline and ibogaine, which he calls "fantasy enhancers." (Naranjo, 1975 [1973]). Although no simple correlation has been found between the chemical structure of a psychedelic drug and its effects on the mind, the manipulability of these molecules makes them an excellent means for the experimental study of altered states of consciousness. If we could find the neurophysiological basis of their effects, we would have an important clue to the structure and functioning of the mind. That was one of the aims of psychedelic drug research while it still continued, and remains an unfinished task today.

Most psychoactive drugs interfere with the communication between neurons (nerve cells) by modifying the chemical signals passed at the synapse or neural junction. The signal-carrying chemicals, called neurotransmitters, are different in different parts of the nervous system; psychoactive drugs heighten or inhibit the effects of one or more neurotransmitters in the central nervous system and especially in its most important part, the brain. It is not easy to establish relationships among psychedelic drugs, neurotransmitters, brain activity, and states of consciousness. The brain is complex and inaccessible to delicate experimental manipulation by chemical means. A drug can affect a neurotransmitter in several different ways, and a single drug may affect several neurotransmitters on whose combined action the ultimate consequence for thought, feeling, and behavior depends. The major psychedelic drugs—those related to LSD (indoles) and those related to mescaline (mostly amphetamines)—seem to exert their effect mainly by substituting themselves for a neurotransmitter called serotonin and preventing its action, especially in the midbrain raphe cells, which regulate certain visual and emotional systems in the brain. But this is probably insufficient to account for all psychedelic effects, and there is as yet no explanation for the differences among the various drugs, or for the effects of drugs like ketamine and nitrous oxide, which do not resemble LSD or mescaline chemically at all and do not obviously affect serotonin. Much remains to be learned, and new psychedelic substances may help.

*Altered States of Consciousness*

Whatever the specific mechanisms of psychedelic drugs, they can be described as somehow altering or impairing the filters that regulate the access of perceptual and emotional stimuli to consciousness, and this suggests how their effects are related to other states of consciousness. Usually variations and novelties in the way we put together our world are confined to a fairly narrow range of consciousness defined by the need to foresee danger, make plans, control our actions, and generally adapt to a

complex environment. But if the need for control is absent or cannot be satisfied, the mind takes strange directions. This situation arises when there are not enough novel external stimuli to keep the mind occupied; it also arises when the mind becomes so hypersensitive to stimuli, internal and external, that normal filtering and feedback mechanisms fail. The first situation is exemplified by REM sleep (dreaming sleep), during which the senses are delivering little new information and the skeletal muscles are immobilized, so that the body is not prepared for action, but the cortical centers of consciousness are at a high level of activity. There are also waking states in which the mind is deprived of novel stimuli—sensory deprivation in an isolation tank, certain religious exercises in meditative concentration, possibly some drugs like ketamine. LSD, whether by affecting the raphe cells or by some other means, seems to give the mind too much to cope with rather than too little. Sensory deprivation or overload prevents the orderly processing of new information, and the idle or overworked brain begins to produce novel combinations of ideas and perceptions. These experiences sometimes seem more direct and immediate, more real than ordinary reality, just because the mind is not using its familiar categories to divide, distinguish, and select.

The fact that psychedelic experiences are produced by an unusual state of the nervous system is no reason to regard them as merely a pathological distortion of consciousness with nothing to teach us about the real world. That would be a genetic fallacy. It helps to recall, if only as a corrective, the Hindu and Buddhist judgment that everyday consciousness is *maya*, illusion. The combinations of the mind in altered states of consciousness are not random and senseless. Furthermore, the experiences produced with such intensity by psychedelic drugs also play a part in everyday life, where of course we properly take them only in small doses and in dilute form. There are many fruitful mixtures of what is usually called fantasy and what is usually called reality. Among the overinterpretations, misinterpretations, and delusions of altered mental states we also find the kind of creative interpretation that uncovers new realities; and we cannot always be sure which is which.

Madness or psychosis is one of the altered mental states to which psychedelic drugs effects have been compared. At one time there was great interest in LSD and mescaline as chemical models of psychosis which might provide a clue to its cause and treatment (Stockings, 1940; Bowers & Freedman, 1966). This line of research did not prove especially fruitful, and now it has been almost entirely abandoned, although there are still a few dissenters (Claridge, 1978). Psychedelic drugs' effects have not taught us much about chronic schizophrenia, the most serious mental illness, which is characterized mainly by confused and disorganized thought (thought disorder), apathy, and delusions. Chemically, chronic schizophrenia is associated not with serotonin but with dopamine, another neurotransmitter less affected by psychedelic drugs. Psychedelic effects more closely resemble acute or short-term psychoses, which often produce the same emotional and perceptual hypersensitivity, symbolic projections, changes in time sense and feelings of regression in time, preoccupation with details usually disregarded, impairment of judgment, strong or contradictory feelings, and heightened sense of meaningfulness. It is as though a similar alteration or impairment of filtering mechanisms occurs in both situations.

But the drug effects differ from psychosis in significant ways too. Visual hallucinations or rather pseudohallucinations are dominant rather than auditory ones (imaginary voices). There are more perceptual changes, including the characteristic dreamlike imagery. The drug taker's mood is more likely to be pleasant or euphoric, he is rarely apathetic and emotionally numb, and he suffers less disorganization of thought. Differences in the situation account for some of this. The psychedelic drug user knows why he feels the way he does and when it will end; the psychotic does not, and even short-term psychoses last longer than the 6 to 12 hours of a drug trip. Although psychedelic drugs have not yet contributed much to our knowledge about the causes and cure of natural psychoses, that may yet change as far as acute psychoses are concerned.

There is no doubt that psychedelic drugs produce experiences regarded by those who undergo them as religious in the fullest sense. In fact, drug-induced religious and mystical experience is often reputed to be unusually intense. For example, in one experiment psychedelic drugs have been found to produce deeper transcendental states than the services of charismatic religious faiths (Knight & Clark, 1976). The doubts involve how to interpret drug-induced religious experience and what value to give it. Although psychedelic drugs are apparently capable of producing a whole range of religious experiences, special interest has centered on the supreme ecstasy of mystical union. The subject is too complicated to investigate very deeply here, but some distinctions are worth making. Rudolf Otto uses the term *mysterium tremendum* to describe the fundamental religious emotion, that which is felt in apprehending the numinous or holy. The *mysterium* represents something hidden that is being disclosed, and the *tremendum* a trembling or shuddering before it in dread and awe. In its lower forms—magic, taboo, spirit visions, ancestor worship—the sense of the numinous is attached to finite objects; in the highest forms its object is a single ultimate universal principle (Otto, 1958 [1932]).

There are at least two kinds of mystical experience: the pantheistic extrovertive kind, exemplified by Wordsworth's poetry, in which the subject blissfully merges with a sacred living presence in nature; and the rarer and deeper introvertive mysticism, in which the external world has no part, a state described as identification of the self with the Godhead or of Atman with Brahman. The philosopher W. T. Stace has defined the characteristics of introvertive mysticism as follows:

- 1) Unitary consciousness;
- 2) Nonspatial and nontemporal awareness;
- 3) Sense of reality and objectivity;
- 4) Blessedness;
- 5) Sacredness;
- 6) Paradoxicality;
- 7) Ineffability (Stace, 1960).

These categories were used in a famous experiment in which Walter N. Pahnke, then a resident in psychiatry at Massachusetts Mental Health Center in Boston, created a psychedelic mystical experience under controlled experimental conditions. Twenty divinity students attended a service at Marsh Chapel, Boston University, on Good Friday in 1962. Ten of them took 30 mg of psilocybin and the rest a placebo. All were asked to

write a detailed account of their experience and to fill out questionnaires 1 week and 6 months later. Pahnke compared the results with a definition of mystical experience derived from Stace's list, adding two items of his own: transiency and subsequent improvement in life. The experience of more than half of the subjects taking psilocybin showed to some degree all nine of the features listed by Pahnke; the percentage for those who took the placebo was much lower (Pahnke & Richards, 1966; Pahnke, 1970).

Despite all this, there has been a stubborn reluctance to concede that drug-induced religious or mystical experience can be even subjectively as powerful and authentic as religious visitations from other sources. The topic seems to evoke the same annoyance and resentment as claims of consciousness-expansion. Obviously there is no way to convince an unyielding skeptic about this, since the quality of two subjective experiences can never be shown to be identical, and there is no infallible authority—not even a modest consensus—on what qualifies as genuine religious experience. All we can say is that the testimony of those who have undergone psychedelic religious experiences suggests that the drug-induced kind is not obviously different or inferior in its immediate quality.

The best-known critic of psychedelic religiosity is the Roman Catholic scholar R.C. Zaehner. He admits that psychedelic drugs can produce a sense of the holy and a form of nature-mysticism. He is even willing to allow the possibility that they might give a glimpse of a timeless and selfless state resembling the Enlightenment of Buddhism. But he denies that drugs ever lead anyone to the exclusive love of a personal God, which he as a Christian regards as the highest form of religious experience; he also denies that the drug user ever feels the gratitude and humility appropriate to this experience of being at once united with and the creature of a transcendent God (Zaehner, 1974 [1973]). Zaehner is partly right, since some psychedelic drug users describe the central revelation, the one that somehow includes and subsumes all others, in terms set by Eastern religion. But on another level, he is wrong. It is quite easy to find psychedelic experiences that are interpreted theistically, with a full sense of creatureliness, gratitude, love, and humility. If that were not so, Christians, including the peyote eaters of the Native American Church, would not be able to affirm their faith with the help of these drugs.

It is also sometimes said that however perfect the mimicry of authentic religious insight by drugs may seem, it can only be a counterfeit, a chemical confidence trick played on our brains and nervous systems. Timothy Leary provocatively invited this response by declaring that in the LSD era religion without drugs would be unnatural and pointless, like astronomy without telescopes. No wonder Zaehner thinks of psychedelic drugs as an "extension of soulless technology to the soul itself (p. 84). To accept drug-induced religion and mysticism as genuine, it is said, would be to reduce the most profound human experience to a brain malfunction.

But William James once wrote that the least important objection to any statement is that the person who made it was disturbed or mentally ill. The epileptic Prince Myshkin in Dostoevsky's novel *The Idiot* "often said to himself that all these gleams and flashes of the highest awareness and, hence, also of the 'highest mode of existence', were nothing but a disease, the interruption of the normal condition, and, if so, it was not at all the highest form of being, but, on the contrary, must be reckoned the lowest." (Dostoevsky, 1965 [1869], p. 226). Dostoevsky, who was himself an

epileptic, ultimately has Myshkin resolve his doubts in favor of the timeless harmony of those peak moments, without denying that by ordinary standards of health it is a sign of deficiency. His answer is not necessarily valid for anyone else, but it reminds us of the seriousness and profundity of the question.

In any case, references to disease, brain malfunction, and technology cannot be used to give a special low status to drug-induced mysticism. As Aldous Huxley often insisted, from a purely materialist and determinist point of view, all intense religious experience is a product of chemical and neurological imbalance. We have seen the connections with epilepsy and psychosis. Methods like fasting, sexual abstinence, breathing exercises, prolonged wakefulness, and monastic isolation are technologies designed to alter the mind in the process of altering body chemistry. Altered states of consciousness often occur at moments of crisis, when the body and mind are not working normally. A mystical experience produced by drugs is not in principle different from one produced by illness. For that matter, chemical substances related to drugs, the neurotransmitters, operate as a cause of *all* human experiences and ideas—the healthy man's as well as the sick man's, the materialist's as well as the mystic's. To single out drugs for special contempt is therefore unjustifiable.

It is more plausible to argue that religious experience attained in this way is too easy, unearned, and therefore inauthentic or at least in some sense second-rate—as though religious revelations should be granted only to exceptional persons after great and prolonged effort. The trouble is that life does not conform to this rule, whether or not drugs are involved. The Christian idea of God's grace is one attempt to account for the fact that the light often descends spontaneously, without any conscious preparation or any apparent desert on the part of its beholder. Besides, psychedelic drug mysticism is by no means always "easy" or "instant." As the emphasis on set and setting implies, the mind must be prepared and the conditions right for a profound mystical or religious experience to occur. And, even then, the drug user may go through a descent into torment and even a seeming death agony before attaining joyous unity and rebirth. But even drug users who cannot be convinced that drug-induced revelations are inauthentic often come to consider them incomplete and inadequate, requiring to be supplemented and then replaced.

As Huston Smith has put it, religious experiences are not the same as a religious life—and we can add that they are not the same as a religious belief. The term "gratuitous grace," used by Aldous Huxley, was carefully chosen: in Catholic theology this gift provides an opportunity that is nevertheless neither necessary nor sufficient for salvation. In Eastern spiritual disciplines, too, the transient visionary, ecstatic, or mystical state is not an end in itself but at most a beginning. The religious life, holiness, salvation, enlightenment, *satori*, *moksha*—no matter how this elusive condition is described, it can never be guaranteed by a momentary ecstasy, however profound and however often repeated; it requires some form of tradition, discipline, and practice. In this respect drug-induced moments of realization are no different from others, spontaneous or sought after. They are an important starting-point for the religious life, but they can also be relegated to the files of memory as nothing more than interesting experiences, forgotten, or even misused.

When such experiences are taken seriously, prophets rise up, religious beliefs are formulated, and religious institutions are founded. Drug substances found in plants are only one and not necessarily the most important of these sources of revelation. But they are not negligible either. For many years Western scholars have greatly underestimated the significance of these drugs to the cultures that use them. When psychedelic drugs came to prominence in our own society and Western researchers began to gain some personal experience of their powers, there was a natural reaction. Since even our elaborate modern resources for explanation and rationalization did not prevent the development of cults surrounding psychedelic drugs, it is easy to see how ergot, fly agaric, and peyote must have affected the primitive men who first tasted them. The divinities embodied in plants must have been a powerful influence on the minds of the shamans who created and preserved the religious lore of the human species in the hunting cultures that dominated the greater part of its history. The same divinities may have influenced later stages of history as well; for example, a psychedelic fungus may have been used in the Eleusinian Mysteries, a ceremony which was regarded with respect by the philosophers and poets of classical antiquity (see Wasson et al., 1978).

The power of drugs—or any altered state of consciousness—to sustain religious cults and world views has weakened. We know too much, have too many contexts in which we can place them and too many ways to dismiss them. The feelings of awe and sacredness that must once have been overwhelming now come up against strong defenses: not only our institutionalized science and medicine but also our institutionalized religion. And yet even today many sophisticated people who take these drugs are left with a sense of mystery that none of their rationalizations have plumbed.

All the evidence from primitive societies and our own suggests that psychedelic and other mystical experiences cannot be judged by the categories of sickness and health; they are neither reducible to symptoms of some disease, nor, despite the etymological identity of "holiness" and "health," signs of supremely effective biological functioning. Perhaps, then, these experiences can be judged in moral and philosophical terms. As Mircea Eliade write, "It is. . . through the experience of the sacred that the ideas of *reality*, *truth*, and *significance* first dawn, to be later elaborated and systematized by metaphysical speculation." There is, of course, a contrary view, expressed by George Santayana:

Every religion, all science, all art, is accordingly subject to incidental mysticism; but in no case can mysticism stand alone or be the body or basis of anything. Both in a social and psychological sense revelations come from beneath, like earthquakes and volcanic eruptions; and while they fill the spirit with contempt for those fragile structures which they so easily overwhelm, they are utterly incapable of raising anything on the ruins (Santayana, 1962 [1905], p. 189).

Even Prince Myshkin admitted to himself that it is not always easy to distinguish between pathological phenomena, religious phenomena, and pathological religious phenomena. Psychedelic drug use ought to provide some evidence on this question, since it involves a deliberate chemical disturbance of the brain that is often induced for religious or quasi-religious purposes. It gives us a new opportunity to bring the categories of biochemistry, neurology, and psychiatry into some relationship with those of

religion, instead of treating them as fixed, mutually exclusive alternatives. In any case, no common social or ethical vision emerges from the varieties of psychedelic or mystical revelation, no conclusive metaphysical system, no single program for action in the world, no uniform improvement (or, obviously, decline) in character and morals. Mystics and prophets have varied greatly in personality too—some gentle, some ironical, some aggressive. And no single blissful or timeless moment, obviously, grants permanent freedom from fanaticism, self-delusion, and fraudulence. Yet there is something here that all men have potentially in common. Anyone who has felt even for a moment with Blake that as finite selves we are "shut in narrow doleful form," or with Plato that there is a world beyond appearances, can respond with some sympathy, if not with conviction, to such words as these, quoted by William James: "I know—as having known—the meaning of Existence: the same center of the universe. . . for which the speech of man has as yet no name—but the Anesthetic Revelation." (James, 1929 [1902], p. 382).

But what is it in us that responds this way to such experiences, and is it ultimately trivial, marginal, even a dangerous illusion, or is it important to a proper view of the human condition and the nature of the universe? There may be no intellectual solution here, no puzzle with an unambiguous answer. What is going on is at a level either lower or higher than the conceptual. Since it cannot be shown by argument or evidence whether the mystic is faced with Reality or a hallucination, faith must be invoked. James said that the feeling of reality and truth in such experiences can dominate a whole life without ever being available to the mind for definition and description. Primary religious and mystical awareness may inspire philosophical systems, but it cannot provide a touchstone for their truth, and in fact the symbols and concepts that describe these states are as often brought to them as derived from them. Despite the fundamental sameness of the experiences in all ages and cultures, these symbols and concepts vary amazingly. There is no philosophical essence of mysticism. The Buddha must have seen this when he brushed aside metaphysical questions as ultimately unanswerable and irrelevant to the central issue of what should be done to achieve salvation.

Charles Tart raises the more specific question of the relationship between science and psychedelic experience. At least since the Romantic era some thinkers have sought an antidote to the supposed dehumanizing effects of science—what William Blake called "single vision and Newton's sleep." Today some of their successors speak of an age-old wisdom of humanity, sometimes called the Old Gnosis or the Primordial Tradition, neglected only where modern science and secularism rule, its truths revealed to the interior eye in altered states of consciousness and now, finally, in natural science itself as it reaches its limits and begins to glimpse something beyond. In this way of thinking the search for scientific truth becomes largely a distraction from the striving after genuine wisdom, and even an obstacle to it. Such views may become attractive to people who are disturbed by the inadequacy of science as a moral guide and the unfortunate social effects of some of its practical applications. Too many problems seem not amenable to its procedures, which nevertheless tend to pre-empt the field and drive out other moral and metaphysical systems.

This disparagement of modern science sometimes goes along with what may perhaps unfairly be called an attempt to borrow its prestige by describing the recommended form of spiritual investigation as a science. Certainly some Eastern disciplines, especially yogic techniques, show formal resemblances to scientific research. Both systems of inquiry involve a quest for the reality behind appearances, in which we find theories alleged to be verifiable in repeatable experiments conducted by properly trained persons. If this analogy eventually breaks down, it is not mainly because science is "rational" and other branches of wisdom "irrational" (we are not so certain of the scope of rationality), nor even because mysticism cannot express its experimental results unambiguously in words or mathematical symbols (scientific language is not free of ambiguity either). The difficulty is rather that none of the ancient paths of knowledge (nor all of them together) provide a plausible alternative to science. There is no single Old Gnosis or Primordial Tradition to be set in opposition to the scientific heresy, nothing at all comparable even in coherence as a system of inquiry, much less in intellectual intricacy, beauty, and subtlety.

The virtue of the various and inconsistent ways of thought subsumed under terms like Old Gnosis or Primordial Tradition is that they incorporate much neglected experience. Science could make no sense of certain evidence about the world (or the mind) that had been considered central in older traditions, and therefore paid as little attention as possible to that evidence. Whole areas of experience and fields of intellectual endeavor were relegated to the domain of religious faith or consigned to the categories of fraud, folly, and disease.

There are good reasons for this neglect of mystical and visionary experience. It is a difficult field to study, lacking in elegant deductions, beautiful theoretical models, or established principles of order. There is disagreement about what (if any) training is needed to achieve the experimental results. Mediocrity is common, and fraud and credulity abound. The literature is often boring, exasperating, and even repellent to people unfamiliar with the experiences on which it is based. William James addressed this problem at the high point of triumphant scientific positivism and materialism: ". . . few species of literature are more intolerably dull than reports of phantasms. . . Every other sort of fact has some context and continuity with the rest of nature. These alone are contextless and discontinuous." (James, 1956 [1897], p. 317). He describes and even sympathizes with the "loathing" for this subject felt by scientists of his day. But then he speaks of the need to reconstruct science so that it provides a place for "phantasms," and adds, "It is the intolerance of science for such phenomena as we are studying, her peremptory denial either of their existence or of their significance (except as proofs of man's absolute innate folly), that has set science apart from the common sympathies of the race." (*ibid.*, p. 326).

The problem described by James persists wherever science takes over the old religious function of providing a view of the world as a meaningful totality, a cosmos. Much rationality and experience continues to lie outside the scope of science, or on its fringes. But some day science might transform or redefine itself to provide the context and continuity that James missed. James said that verifications are only experiences agreeing with more or less isolated systems of ideas framed by our minds, and added that

we should not assume that only one such system of ideas is true; Tart's idea of state-specific sciences elaborates this suggestion. Even for people who reject the notion of distinct sciences for distinct states of consciousness, it still makes sense to experience and study altered states of awareness in order to learn about the nature of our world by directing attention to aspects of it that usually remain peripheral. We learn more about the blazing sun by studying the corona that is invisible in its glare. Daylight and nighttime consciousness are complementary manifestations of mind. To cite James again:

No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded. How to regard them is the question,—for they are so discontinuous with ordinary consciousness. Yet they may determine attitudes though they cannot furnish formulas, and open a region through which they fail to give a map. At any rate, they forbid a premature closing of our accounts with reality. (James, 1929 [1902], p. 379.)

Since James' time there has been a "return of the repressed" into science. In psychology it has been achieved through the psychoanalytic tradition and now through mystical experiments; in physics, through the revolutions of quantum and relativity theory; and in philosophy of science through the abandonment of positivism. Harold Rosenberg has written, "Ours is an epoch of excavations—archaeological, psychoanalytical, philosophical—which keep emptying into contemporary culture the tombs of all the ages of man." (Rosenberg, 1975, p. 139). In this salvaging operation that ransacks the past and the depths for materials to construct a more adequate picture of man and the universe, we may have to redefine science as well as demystify mysticism. It would be a mistake to react with fear, like a primitive tribe terrified by an eclipse of the sun, and then disguise this fear as a defense of reason and beat our drums to make the eclipse stop.

Bertrand Russell wrote of "the true union of the mystic and the man of science—the highest eminence, as I think, that it is possible to achieve in the world of thought." (Russell, 1929, p. 4). These are the kinds of consciousness-expansion, in self-knowledge and knowledge of the world, that constitute a genuine advance for humanity, and we should not neglect any modest way in which psychedelic drugs might contribute to them. If the boundaries of science seem more porous than they used to be, and formerly excluded material is drifting across them, psychedelic drugs deserve some of the credit or blame. Experiences and problems that had been associated with a dimly conceived India, or the ancient past, or primitive cultures, or the ravings of madmen and mystical obscurantists, came into the mainstream of Western research by entering the awareness of researchers in such a way that they could no longer be ignored or dismissed. Ironically, we have now abandoned this research instrument to illicit and usually directionless experimentation out of which no systematic knowledge can come.

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## **TWENTY YEARS ON AN EVER-CHANGING QUEST**

**Alexander T. Shulgin**

"Each man must look to himself to teach him the meaning of life. It is not something discovered: it is something moulded."

—Saint-Exupery

Millions of people have, at least once within their lifetimes, become aware of some form of psychedelic state. There have been many means employed: intentional ingestion of some drug; spontaneous rearrangements of internal chemistry; acts of physical excess, such as starvation or self-mutilation; or the quiet procedures of meditation or religious dedication. For some people, these have been one-time events which—if not disturbing enough to demand avoidance—have been of insufficient value to encourage re-exploration. For others, there has been a change in the flow of life-purpose, leading to an active search for further experiences, in order to build on the structures that have appeared. But few if any of these people would deny the impact, be it sacred or frightening, that such an experience has had on their view of themselves and others.

But this "change of life flow" capability seems not to be for everyone at all times. Unlike the rites of passage, practiced one way or another throughout the world, which are locked inexorably to adolescence by the biologic clock, the receptivity to psychedelic experience seems to require an emotional development that involves some entirely different timing mechanism. There must be an harmonious blend of attainment and dissatisfaction, something that is found, if ever, with the achievement of social maturity along with emotional honesty. Early psychedelic experiences that have the potential of affording transitions have too often and too tragically been wasted, like youth, on the young. Such exposures may have provided pleasure and entertainment, but they have also been correlated with the compulsive use of any accessible drugs. From such misuses have come

examples of social alienation and consequent isolation. Intense experiences, before their time, bid fair to be grasped at as escapes, and may not play the intended role in personal development.

But what is the time, the age, the state of emotional maturity that allows the power and potential of such experiences to be recognized and effective? The ego demands of each person the belief that his age, whatever it might be, is the optimum age for growth and understanding. And if a person finds that he has changed his life's course, he will usually convince himself of the correctness of the new direction. Successful (in retrospect) changes have occurred with adults in their teens, yet similar efforts have fallen on barren soil with others in their sixties. There are clues that might help define the necessary state of maturity, but they are difficult to observe in others. It is equally difficult to evaluate, objectively, the net long-term consequences of a psychedelic experience, one which has clearly set the subject on some change of life flow. Such perceptions and predictions are impossible to make in regard to oneself.

As illustration, let me outline briefly the histories of three people, each of whom had a cataclysmic experience with a psychedelic drug some 20 years ago. All were in their early thirties (an age which I feel is rarely sufficient for the achievement of that "personal development" I mentioned earlier). All three were, at the time of this experience, well educated, professionally competent, and highly respected by their peers. Each changed the direction of his life following his—in Maslow's terms—peak experience.

One, a professor of literature, underwent an intensely introspective evaluation (the drug was LSD) that demanded he look closely at the quality, the "lastingness" of his educational preparations; he saw them as simple machinery being constructed as a camouflage for his own unwillingness to acknowledge shallowness. He moved to Japan for 2 years, shifting from the role of teacher to one of student. He studied Zen philosophy, and felt that he was achieving both openness and self-awareness. On returning to this country, he entered and completed professional graduate school, and is presently a very successful administrator in a human-health oriented department of a major university. He felt that the single experience had been personally revelatory, and had led him towards his most productive niche, but he has never felt the need nor wish to repeat the experience.

The second person, an especially gifted neurologist, effectively disappeared from all social and medical contact following an intense LSD experience, one which truly showed him the hand and word of God. After 8 months he returned to his wife, family, and practice, with a 30-page tract that was the labor of love for this period, one which put into words the revelations which had become so patently evident to him during the experiment. His subsequent 2 decades have been devoted to sharing, both medically and theologically, those insights that had so changed his personal attitudes. There has been modest experimentation with psychedelics during this period, but without the achievement of the transcendental state of enlightenment of that remarkable experience. Today he is living in a commune in the Midwest, dedicated to his practice of both medicine and religious teaching.

The third person was a biochemist, myself. I took a day from my professional work in industry to explore the catalytic effects of mescaline. The impressions of that experience are best expressed in the flow of events that followed that day. There began what might be called a quest of curiosity. I realized that the mind, and the senses that provide inputs to the mind, were all grossly underutilized faculties in the study of the world around us; and that it was irrational to ascribe to a small quantity of chemical the intrinsic power to provide this sensory augmentation. I found it hard to accept that such a simple, unsophisticated molecule, containing barely 30 atoms, could carry within its structure such complexities of thought patterns, of sensory license, of visual magic. It was inescapable that the molecule didn't do anything itself, but rather, allowed the human mind to make these changes. It could only serve as a catalyst, unleashing and promoting channels of mental processes that were native, that lay inculcate in the normal brain. And why should a modest cactus contain such an effective catalyst, expressible only in man?

Psychologists might be able to dissect the nature of the changes, and physicians might be able to define the sites of action, but my background in chemistry and biochemistry limited me to the atoms and bonds of this catalyst, and the compelling inquiry into their function by the simple strategy of changing them, observing the changes in effect that resulted. I felt that by providing in a single process both the structural change and the subjective evaluation of the results of such change, a pattern might emerge that would tie together the definitions of the catalyst and the process being catalyzed.

A first step in this direction had already been taken by Hey and Smithies, and other Canadian workers, who blended together the molecules of mescaline and amphetamine. The result was TMA, and in the late 1950's they found it to be similar in action to, and more potent than, mescaline. This observation, in effect, dispelled the myth that natural products were the *only* truly effective psychedelics. This was a blend of the natural and the man-made, and it historically launched the studies that followed. It is still true that the most potent, though not necessarily the most interesting drugs have this amphetamine skeleton, and often have alphabetic abbreviations ending in "A."

But nature and her botanicals were still to contribute to the development of this area. The oils of several plants (nutmeg, parsley, dill) have had checkered reputations as intoxicants. In these extracts there are unusual chemicals which resemble amphetamine, except that the elements of ammonia are lacking. In a series of studies, these natural plant products were fractionated into their components, and I converted them separately into biologically acceptable amines. Safole gave rise to MDA, which had been first explored and reported by Gordon Alles several years earlier as a sensory enhancing agent. Elemicin yielded the base TMA. Myristicin gave rise to MDMA, which had been synthesized and found to be psychedelically active by both Alles and myself, at about the same time but independently of each other. We had coincidentally given it the same alphabet name and had found it through the same line of reasoning. (During the month before our first intended meeting, Alles died, and the

work that has followed in the subsequent 20 years could be appropriately dedicated to his curiosity and impetus.) MDMA was a "natural" product, in that it was derived from natural sources, but, being some three times more potent than mescaline, showed that indeed man could improve upon nature. The heart of this is the finding that the arrangement "MD" (methylenedioxy) exceeded in both potency and virtue (pleasantness of experience with fewer physical side-effects) the "DM" (dimethoxy) arrangement to be found in analogs.

The third principle of structure *versus* activity was the result of a complete chemical and psychopharmacologic study which I made of all possible arrangements within these molecules. I found that the "natural" orientation was exceeded in potency by a factor of 10, by the "unnatural" 2,4,5-substitution pattern. This is now the universally accepted basis of most currently known psychedelic drugs. The magical "four position" was shown completely to control the character of a drug's effects. It was thought that placing a metabolically inert group at this position might lead to an inactive, thus possibly prophylactic, antagonist to related drugs. It might be a therapeutic agent against endogenous schizophrenia.

But the product (DOM, also known as STP) proved to be an exceptionally potent psychedelic, perhaps a hundred times more potent than mescaline. This compound escaped into the street scene in the late 1960s and contributed to the polarization of opinions concerning paramedical drug use. From the viewpoint of my own understanding of the whys and wherefores of drug action, this proved to be a major breakthrough. Virtually any substituent at this "four position," as long as the rest of the molecule was left intact, led to some form of psychedelically active drug. The comparative potencies might vary, as one could expect, but the range and variation of effect was the rich, unpredictable reward of such modifications. At this position, going from one carbon to two carbons, a structurally trivial modification, produced DOET, a drug that has been found by several research groups to facilitate the unblocking of imagination and creativity.

Replacing this one carbon atom with the halogens, bromine and iodine, produced DOB and DOI, both extremely potent (with the active forms requiring about one molecule to do the task of 1,000 molecules of mescaline) and allowing an exceptionally long-lasting, rich, visual and sensory experience. Replacing the one carbon atom with a sulfur atom produced the first of a still largely unexplored "aleph" series, which bids fair to evoke the richness and introspection of LSD, with the added possibility of teasing out specific aspects of action for emphasis.

The last principle, interestingly, closed the circle on the first. The amphetamine chain has served the role of fine-tuning the substitution nature of the psychedelic catalyst, but it has been discovered that by returning to the simple phenylethylamine skeleton found in mescaline and in the vital neurotransmitters of the brain, this richness of potential comes home in logical proximity to natural biochemistry. The neurotransmitter-analog related to DOB is 2C-B, which allows a luxury of sensory enhancement (visual, sexual, gustatory) with a minimum of introspective demands. The analog related to DOET is 2C-E, which permits extraordinary fantasy, both factual (childhood reliving) and insightful. The analog related to

mescaline but with sulfur in place of oxygen at this same four-position is thiomescaline, which disorganizes the logical patterning of thought processes, with surprisingly little visual or sensory modification.

Throughout this early work, I was absorbed primarily with how much of a chemical it took to achieve an effect, rather than with the nature of the effect achieved. In my notes the term "psychedelic effectiveness" reflected only the potency. I left to others the task of determining the qualitative aspects of the effects of these drugs, and their potential values. It was around this time that I became aware that I was trying to answer a complex question with a hopelessly restricted vocabulary. I needed a fundamental understanding of many other aspects of the functioning of the human animal. I entered medical school to learn the mechanics of these functions; the search for their purpose and meaning was begun at this same time, through the study of philosophy and literature. But it must also, sadly, be called the time of my quest for camouflage. These were the years of paranoia and extreme opinions on any topic that embraced the word "psychedelic."

A public conference on the subject of LSD, scheduled for the University of California in Berkeley, was abruptly disavowed by the faculty, and frantically transferred to San Francisco. It was attended by many hundreds of people, who seemed divided into rabid proponents of the use of psychedelic drugs—largely representing the "flower-child" movement in San Francisco, euphemized by the term "Haight-Ashbury"—equally extreme antagonists, representing the academic establishment voicing fear of the unknown, and a battalion of the quiet ones, participating only with tape recorders and cameras, probably representing the Bureau of Narcotics, the FBI, and possibly the press.

Some time later, and some 10 blocks away, a second circus took place: the hearings of the House Select committee on Crime, chaired by Senator Claude Pepper, which were also devoted, in large measure, to psychedelic drug use.

By keeping a low profile, one could avoid allying oneself with either extreme. Replacing the term "psychedelics" with "psychotomimetics," researchers in the field locked themselves into the then prevalent clinical concept that LSD and related drugs had value only in the generation of a "model psychosis," but they were able to continue their investigations. This was, throughout the western world, a period of little progress in the field, since every discovery—if it were to be reported at all—had to be phrased in terms of mental illness. Industrial laboratories restricted their psychopharmacology research to the development of tranquilizers and anti-depressants. The academic institutions maintained interest in this area, but confined themselves to the more negative questions of neurological damage and addiction. This period of repression gave caution to many investigators who were widely published and thus widely known, but gave assurance of professional survival to others who (wisely) chose to continue their searches with circumspection.

With the passage of the Uniform Substances Control Act, the extent, but also the limits, of the "drug evil" were defined. This allowed academic scientists to continue their studies in areas that could be rationalized as conforming to the popular ethic. (But outside were to be found the and-

nomians who listened to a different drummer.) The well known "drugs of abuse" had been explicitly defined; LSD, STP, mescaline, psilocybin, and some three score relatives were condemned by these statutes. A modest wealth of discovery in several research environments throughout the world began uncovering the generality of psychedelic drug structures and, much more important to the studies that stemmed from this, a wealth of qualitative distinctions and values which can be found within them.

Here was the start of my quest of caring. I began the study of these drugs, not from the viewpoint of classification and simple assignment of potency, but inquiring into the values of human interaction that can result from their study in terms of personal development. I became aware that it was of little merit merely to observe what a drug does to the human nervous system, unless one also observes how it permits a person to interact with others, and especially, how it allows him to acknowledge himself. Some of the most complex psychedelics will achieve, in persons who are psychologically well centered and personally on terms with their internal anger, little more than an adventure in sensory release, with an occasional insight which reminds them of their humanness. Yet, with some of the simplest materials, ones which will normally yield nothing more than a simple opening "window" effect in most subjects, an occasional abreactive bubble is brought to the surface, brought completely and inescapably to conscious awareness with the concomitant acknowledgement that prepares the ground for progress. However, the assignment to a drug of a position on the continuum between "simple" and "complex" depends as much on the situation as it does on the chemical. Within such research, I feel that there are several requirements that must be met before any generalized statement of properties can be ascribed to a psychedelic drug.

First, there must be complete confidence on the part of the experimenter that there are no toxicological or physically threatening properties that might color the responses evoked. This means, simply, that the observer must be completely aware of the potency and the potential quality of the effects to be experienced before there is any interaction whatsoever with a subject. In this regard I have used the term coined by Gordon Alles, of "double conscious" protocols. In the evaluation of a new drug, the rubric of the medical community is that, for the sake of objectivity, both the subject and the experimenter must be unaware of the presence or absence of an active component being used in a trial, and that the nature of the expected action should also be hidden. In the area of psychedelic drugs, this is both unethical and absurd. If the potential exists for the upheaval of a person's "change of life flow," then it is unprofessional, if not criminal, to fail to advise him of this potential outcome. And if you, yourself, as the investigator, are uncertain of the potential ramifications of such an experiment, then you are remiss in exposing others to that with which you are not personally familiar. One must personally know the experience to understand properly another's experience. Humphry Osmond states this well in his analogy:

"A eunuch could write an authoritative book on sexual behavior, but a book on sexual experience by the same author would inspire less confidence."

Second, the experimenter should enter the experiment along with the subject, with the same chemical and at the same dosage. The classic arguments of objectivity *versus* subjectivity are not applicable here. The barriers of distrust, a familiar hurdle to be overcome in psychiatric interactions, have thus been lowered. Otherwise, the "subject," feeling himself without defenses in interaction with an "observer" who has all of his own defenses intact, may feel alienated and inhibited. Openness must be reciprocal. Two unmarked and equal capsules can dispel dramatically any anxieties that might arise during an experiment.

Third, the setting must be familiar and benign. Two (unintentionally) parallel studies bear witness to this need. One, in Los Angeles several years ago, was conducted with some hundred subjects taking LSD in a clinical environment, with medical back up, blood pressure measurements, and thorazine at the ready. Many of the subjects had a difficult time within the experiment, and most stated that they would not choose to repeat the experience. The other study took place in New York at about the same time, with a similar number of subjects and the same drug and dosages, but in a private home with support and personal interaction. This produced a largely positive result and a sustained interest in further exploration.

There is really a fourth consideration, in addition to the trilogy above. One must have a genuine curiosity about new directions of personal growth and the fabric of psychedelic insight and discovery, rather than just a wish for sensory entertainment or escape. There should be dedication of purpose or recognition of need.

In my own case, I had culminated some 10 years of academic curiosity with a personal experience of mescaline, in early 1960. The 20 years since then have been invested in a search that may not yet have its final direction. Now, the quest is assuming a different character. There is a need for integration. There are literally hundreds of psychedelic "catalysts" currently at hand that run the gamut of potencies and qualitative characteristics. But now it is becoming apparent to me that these materials, rather than being simply flowers in an expanding anthology, could have value beyond their present acceptance as sensory disinhibitors. Two or three are especially noteworthy, partly for the specificity of their effects, and partly for the consistency of action.

One of the most thoroughly studied, with hundreds of clinical trials, is the material known as MDMA. It has proven to be of remarkably consistent chronology (the duration of action is about an hour) and dosage requirements (the effective dosage is 100-150 mgs. orally). In most aspects, it is deceptively simple in action, leading to a sensory and verbal disinhibition, a state of mutual trust and confidence between subject and therapist, but without the distractions of visual distortion or compelling introspection. This "window" effect is almost always graciously accepted, and the consistent short duration of action gives assurance of gradual but certain re-establishment of a "normal" baseline. It is, on one hand, the ideal introductory experience for the naive subject, yet it allows a flow of communication (intra- as well as interpersonal). Some experienced psychiatrists and psychologists insist that it has reduced to a day the labors that might have normally taken months. With its use there have been occasional abreactive crises, but these have usually been understood and

acknowledged in terms of repressed personal history. With some people, there appears to be no need to dip deeper into the psychedelic pharmacopoeia. With others, the openness serves to dispel anxieties concerning alteration in states of consciousness, and access can then be attempted with more moving and commanding substances. These materials are indeed catalysts which work at the levels of fundamental processes of emotion and perception.

Very little, however, has been learned about the actual processes being catalyzed. The striking similarity between many of these substances and vital biochemicals found in and about the central nervous system suggests that there might be a mechanism that involves disruption or augmentation of these bio-chemicals with a concomitant unbalancing or rebalancing (temporarily) of the nervous system. The hows and whys of the action of this fascinating family of compounds is still a mystery, but some unorthodox speculations are tempting. Our cultural heritage requires the initial conclusion that these transient yet potentially enduring changes of states of consciousness are unnatural or abnormal. But perhaps they reveal the "normal" state through some disinhibition of an evolutionary imposed safeguard. Perhaps these chemicals, by themselves, or through the *in vivo* conversion to some intrinsically appropriate metabolite, may serve a neurotransmitter role at some synaptic network, restoring certain neurological functions that have been lost through evolution. To many people, the states of awareness that are experienced are not "abnormal," but rather, familiar territory that had been lost in some primal amnesia.

Perhaps. But if these states are the human heritage, it cannot be forgotten that they represent, unless explored with caution, honesty, and preparation, serious threats to survival in a hostile but stable world. It is one thing to uncover the means of exploring the unlimited sensory reality about us, but quite another to divest the innocent of the learned biases and thought patterns which allow him acceptable behavior in a "normal" world. The zealous proselytes who talk of "turning on the world," without thought of the chaos that would certainly ensue, are in fact antisocial in their messages. There is much potential for mischief, even for physical and psychological damage, in these chemical catalysts. But the enriching growth potential that they also contain demands continuing study and attempts to understand them.

## TEACHINGS FROM PSYCHOACTIVE PLANTS AND INTOXICATED ANIMALS

Ronald K. Siegel

I didn't mind the pain. Oh, it was there all right—raw, vibrating, hammering pain. But Milt had promised it wouldn't hurt. First he asked if I was getting dizzy. I said yes. He asked me to "open wide" and proceeded to fill the ubiquitous cavities of my childhood mouth. Milt was more than just my dentist. He was my teacher. He told me about my body, showed me pornographic pictures of naked teeth doing unnatural acts with bacteria, explained the mysteries of good nutrition ("eat lotsa green plants"), and on special occasions showed me Mrs. Schwartz's false teeth, which were always in for repair. Sometimes he would put a piece of chewing gum on his nose to distract me from a painful procedure. Sometimes he would stick it on Mrs. Schwartz's false teeth. I often wondered whether she would get them back that way. Milt was a funny guy and a good dentist. But he was also a liar. He said the nitrous oxide he gave me would stop the pain and make me laugh (he called it laughing gas). I had lots of pain and I never laughed.

I had dozens of nitrous oxide sessions with Milt during those early years. On several occasions I felt that I was being transported to some mysterious place where the secrets of life and the universe were revealed. I felt close to learning a great cosmic truth, but I was not quite able to grasp it. Still I longed for the sessions and privately rejoiced at each new-found cavity, knowing that this was my ticket to yet another encounter with the elusive teachings of nitrous oxide. But all I ever brought back from these journeys was a groggy dizziness punctuated by tell-tale flecks of silver amalgam on my chin. And I never laughed.

Years later I found myself, now with healthy teeth, studying and experimenting with pigeons in a psychopharmacology laboratory. An acquaintance was arrested for possession of marihuana and his lawyer asked me for information about this "new" drug. I found little information in the library and so asked the attorney to have a sample of the marihuana released to my lab so that we could use our modern techniques of behavioral analysis in determining its properties. When the marihuana arrived I prepared a petroleum ether extract according to the Carlini-Kramer method and injected it into P-18, a homing pigeon of the species *Columba livia* whose

distant ancestors flew messages for the Royal Canadian Air Force during World War II. I launched P-18 from the laboratory window overlooking the University athletic field where amphetamines were playing such a large role in the success of the football team. P-18 did a kamikaze nose dive straight to the ground. Fascinating. There was a small amount of extract remaining and, recalling Milt's advice to "eat lotsa green plants," I swallowed it. Within an hour or so I became nauseous and disoriented and found myself on the floor surrounded by colorful geometric patterns and lights. Above all, I was very dizzy. Fascinating. My body was obviously trying to reject the experience, yet my scientific curiosity compelled me to seek out its understanding. I devoted the next 15 years to taking lessons in the pursuit of that knowledge.

*Bitter Lessons from Alkaloids*

The dizziness, reminiscent of my earlier experiences with nitrous oxide, seemed like a good place to start my investigations. In the nitrous oxide intoxication, the dizziness was a rich and rewarding experience. But when accompanied by nausea and vertigo in the marihuana-extract intoxication, it was unpleasant, albeit fascinating. Dizziness seemed to be a common ingredient in drug experiences. Indeed, in 1890 Leo Tolstoy wrote that the cause of the worldwide consumption of hashish, opium, and tobacco is man's desire to alter his consciousness by the stupefying and dizzying effects of drugs. And most if not all psychoactive plant drugs produce dizziness and/or the concomitant symptoms of motion sickness or food poisoning. The reason, I learned through my research, extends far back into evolutionary time.

In the beginning of the Mesozoic Era, some 225 million years ago, the coal swamp flora and fauna were disappearing, while angiosperms and reptiles were beginning their evolutionary advance. The angiosperms (flowering plants) rapidly became dominant and the evolution of their plant chemistry eventually led to animal life's first encounters with drug-induced dizziness. First, angiosperms started to produce hydrolyzable tannins. There is little knowledge concerning the role of tannins in plants, but they do act as antifungal agents. For animals, they are bitter tasting, inhibit protein digestion and enzyme activity, and cause liver lesions if taken in excess. Second, angiosperms started to produce aromatic amino-acid-based alkaloids, substances that constitute the major groups of psychoactive drugs.

As a general rule, alkaloids have no known function in plants, and no one really knows why plants produce them. They taste bitter, like the tannins, but have a wider range of physiological activity, including psychological, teratogenic, and toxic effects. They act as extremely effective feeding deterrents, and it has been argued that many of the naturally occurring plant drugs are evolutionarily justified in terms of the maladaptive effects they could have on herbivores. Indeed, it has been noted that these major changes in plant chemistry coincided with the sudden extinction of the dominant life in the animal kingdom, the dinosaurs. These giant reptiles, unlike the birds and mammals that followed them, may have failed to evolve effective mechanisms with which to detect and/or detoxify the alkaloids.

Obviously the appearance of plant alkaloids and the threat of these behavioral consequences necessitated the development of a delicate sensory system with the capacity of qualitative and quantitative discrimination. As the insects, birds, and mammals were compelled to adapt to an environment of continuously increasing chemical complexity, they developed extremely fine sensory systems to detect plant alkaloids. For man, these systems included detecting bitter taste, numbing sensations, and vestibular and cochlear imbalances, and also, of course, learning to put these all together in the form of conditioned taste aversion learning.

Animals failing to develop such systems would be subject to the wide range of physiological activity induced by alkaloids. A dizzy animal, at the very least, would be extremely easy prey and thus unlikely to survive. Indeed, it has been shown that the Mediterranean tortoise, one of the few remaining herbivorous reptiles and relatives of the dinosaurs, can only taste plant alkaloids in high concentrations and that conditioned taste aversion only occurs in this species in concentrations approaching lethal levels. Most animals, in addition to detecting bitterness, developed feeding strategies to minimize intake of plant drugs and maximize nutrition. This is how the tortoise survived. Nonetheless, accidental browsing or the necessity to feed on plant drugs when preferred forage is unavailable still occurs.

I was reminded of these events when I took a break from my studies to see Disney's classic film *Fantasia*. The film depicts the extinction of dinosaurs as caused by climatic upheavals. I thought how much more fun it would have been to portray dinosaurs as overdosing on plant alkaloids. The notion of stoned dinosaurs certainly lends itself to graphic and entertaining images. And it is more appealing than a related theory which claims that dinosaurs, deprived of the oily laxative ferns that were replaced by flowering plants, died an excruciating death from constipation.

#### *Lessons from the Group*

Sixty-five million years after these events, I found myself vacationing on a friend's ranch in Hawaii, where the local veterinarians were well acquainted with the contorted bodies of grazing horses, cattle, sheep, and other animals that have accidentally ingested lethal amounts of highly toxic alkaloidal plants such as species of *Senecio*, *Datura*, and *Nicotiana*. I began to study these animals and found myself watching a replay of those fateful Mesozoic days. The animals, particularly the cattle, would periodically ingest *Datura* spp (jimson weed) and a few would die shortly thereafter. Some would ingest *Psilocybe* mushrooms (containing psilocybin) and appear dizzy, running around in circles. Many animals, like those afflicted with locoweed disease (*Astragalus* spp) didn't die, but displayed characteristic behaviors: they appeared dizzy, shook their heads, and staggered about. They would try to steady themselves by adopting a "saw horse" posture with spread forelegs and hindlegs, rocking back and forth.

In nearly all such cases I noticed that the intoxicated animals behaved in strange and socially inappropriate ways and either left the herd or were segregated by the herd. Much of this behavior is understandable in view of a basic force in animal social structure—animal xenophobia, or the fear and avoidance of strangers. Thus, groups of animals or men seem to reject the strange, either strangely behaving individuals or actual strangers.

Returning to the laboratory, I set up a series of experiments with large groups of animals, including lofts of pigeons, schools of tropical fish, and colonies of mice. Treatment with LSD, bufotenine, marihuana extract, or THC induced hypersensitivity. When treated fish, pigeons, or mice were placed in populations of untreated or placebo-treated animals, they tended to avoid social interaction with these untreated members. For example, each time a drugged mouse was approached by undrugged colony members, it would squeal, squeak, and retreat from the investigation. Drugged mice exhibited typical hallucinogenic patterns of head-twitches, increases in flight postures and emotional tail-rattling, and decreases in social postures such as nosing, sniffing, and licking. Furthermore, drugged animals actively avoided investigating mice and escaped to areas occupied only by other non-aggressive and quiescent drugged animals. This escape-avoidance pattern of behavior was marked by drugged animals literally hopping over the others or engaging in sham fighting, and the behavior resulted in aggregations of drugged animals huddling together. When the entire populations were treated with hallucinogens, inhabitants appeared to actively avoid social groupings by increasing the distance between themselves.

I also conducted controlled LSD intoxications with human volunteers in a living-room environment. In general, I found that drugged subjects showed significantly more verbal and physical interaction with each other than they did with undrugged subjects, although all rated themselves as relatively equal in length of friendship and intimacy. Drugged subjects in the living-room tended to isolate themselves from undrugged subjects, and huddled together in subgroups. When all subjects in the room were given LSD, all remained relatively separate with little if any physical or verbal interaction.

I presented these results to a convention in San Francisco in 1968. Afterwards, I took a side trip to the Haight-Ashbury area and found striking parallels to my laboratory studies: psychedelic drug users isolated and segregated themselves from the surrounding population of non-drug users. The physical limitations of space in the mouse cages, fish tanks, pigeon lofts, or the living-room may have restricted the drugged subjects in their behavior, thereby channelling random ambulations to unpopulated or quiet areas where aggregations soon formed. Similarly, legal and social sanctions may prevent individuals from using psychedelics in any other than such clandestine aggregations.

It was not surprising, therefore, to find in Haight-Ashbury, as in other North American cities of that time, that continued use of psychedelics and marihuana involved participation in small intimate groups which actively avoided interaction with strangers. Even when isolation was not possible, psychedelic drug users appeared to avoid social interaction by embracing attitudes and ideologies of lessened commitment to institutional rules and goals. Thus, the behavioral sequelae of psychedelics appeared to include increased sensitivity to stimulation, sociological isolation, and psychological alienation.

I asked a lot of questions in Haight-Ashbury that summer. Why use psychedelics? The common "straight" answer I received was that they were an *escape from society*. But that seemed more a description of the beha-

vior than the cause. The common answer I received from users themselves was that use of psychedelics was a *search for* meaning and individuation in life, not an escape from life.

#### *Lessons in Avoiding Bitter Experiences*

I still couldn't understand the appeal of these drugs. Most hallucinogens taste bitter, produce numbing sensations, cause a wide range of reactions including dizziness, nausea, vomiting, perceptual distortions, ataxia, inappropriate behavior, social isolation, and, in sufficient, dosages, death. Therefore, it wasn't surprising that animals in the laboratory did not readily self-administer them. I and other investigators had been unsuccessful in getting mice, rats, dogs, monkeys, or chimpanzees to take these drugs voluntarily. The hallucinogens were effective aversive stimuli and seemed to produce conditioned taste aversions in several species. The monkeys, in particular, howled and barked and expressed displeasure.

In humans, hallucinogens can also produce aversive consequences, ranging from mild dizziness to anxiety and panic. Environments characterized by intense external stimuli seem to promote panic reactions, and "bad trips" often ensue. Consequently, sophisticated users, as I observed in Haight-Ashbury, seek out quiet and dark environments in which to experience the stimulating and rewarding drug effects. In such dark settings, users report attenuation of unpleasant reaction, concomitant with a heightening of entertaining visual imagery. Repeated use of hallucinogens is generally motivated by a desire to experience these novel sensory states, which are interpreted as stimulating and rewarding.

Isolated and deprived monkeys also appear to find external stimuli exciting and rewarding. I recalled a classic experiment by Butler in which monkeys were confined to an opaque box and learned a discrimination in order to earn a peek through a window at the laboratory environment in which the box was situated. Learning occurred quickly and the response was quite persistent. In view of these considerations, I asked a logical question: if isolated monkeys will work to earn access to a window in their box, what would happen if the only window available was a hallucinogenic (psychedelic) drug window? The evidence in the existing literature suggested that monkeys might self-administer a hallucinogen under such conditions.

Returning to the laboratory, I quickly arranged the experiment. I took three rhesus monkeys and trained them to smoke nonpsychoactive lettuce cigarettes in order to earn access to a water reward. They did this, but when I gave them free access to water, they stopped smoking, thus indicating that they were only working for the water. Next, I had them smoking again for water; but I added the hallucinogen dimethyltryptamine (DMT) to the cigarettes. Once again the monkeys stopped smoking and directed aggressive displays at the smoking tube they were trained to puff on. They didn't seem to want the DMT. I then put the monkeys into a sensory isolation chamber that deprived them of light and sound but permitted infrared video monitoring as well as access to a smoking tube.

After continuous isolation for several days, two monkeys consistently self-administered DMT by puffing at high rates on the smoking tube. This produced dramatic changes in their perceptual-motor behavior: they

oriented constantly, exhibited spontaneous startle reactions, and circled the dark isolation chamber "looking," grasping at the air, and chattering. And they continued smoking DMT daily even though water was freely available in the isolation chamber. My explanation was that stimulation by the visual effects of DMT (it mimics the effects of light on the retina and central nervous system) was the effective reinforcer. That the aversive and bitter consequences of hallucinogens could be overshadowed by an appropriate environmental setting was not only evident, it was enlightening. The monkeys were both *escaping from* isolation and *searching for* stimulation via a psychedelic. The answers I got from the "straights" and from the users in Haight-Ashbury were both correct.

#### *Lessons from Observing*

These monkeys were reacting to perceived stimuli in the internal or external environment. Additional studies with other animals in my lab confirmed that hallucinogens induce changes in an organism's perceptual-motor behavior, if not hallucinations per se. Mice frequently exhibit head-twitches that remind a human observer of someone trying to shake off some pesty insect or unpleasant feeling. Pigeons adopt a characteristic posture indicating fear, or else peck wildly at the air and retreat from what a human observer might describe as imaginary aggressors. Cats exhibit stereotypic approach and avoidance behaviors or play with what an observer might infer are imaginary mice or butterflies. The eye movements of monkeys may track imaginary insects, or the animals may crouch down with head on hands, a posture our human observer (by now running the risk of being labeled hallucinatory himself) finds vaguely reminiscent of Rodin's "Thinker." Men adopt similar behavior postures or use verbal and other behaviors to describe their imaginary happenings.

I wondered how much more we could learn from careful observation of these hallucinogenic reactions. I, together with other researchers, had given hallucinogens to a dizzying array of organisms, including spiders, wasps, newts, snails, fish, dolphins, rodents, cats, dogs, monkeys, chimpanzees, baboons, and even elephants. Drug-induced hallucinations appeared clearer and more purposeful as observations were made higher up the phylogenetic scale. The comparatively limited behavioral repertoires of invertebrates and lower vertebrates, and their basically "alien" nature, prevent many human observers from agreeing on the interpretation of hallucinogen-induced behaviors. After all, what can be inferred from the fact that a mescaline-treated spider spins an irregular but stickier web, or an LSD-treated snail retreats into its shell?

In the case of mammals and infrahuman primates, the range of behaviors is fuller and more familiar, the temptation to anthropomorphize is greater, and human observers find the reactions to hallucinogens more convincingly hallucinatory. So when a THC-treated chimpanzee starts to move its head from side to side as if tracking some moving object, then reaches out for it and alternatively howls, whimpers, fights, and defecates, it is clearly reacting to a perceptual event in the absence of any objective visual stimuli.

However, I found that this initial hallucinogen-induced behavioral excitation and arousal, in most species, is followed by quiescence and catatonia. This behavior was related to hallucinogen-induced states of central nervous system excitation and sympathetic nervous system arousal, marked by a turning inward toward a mental experience at the expense of the physical. I wondered if the animals' mental experiences in that state were anything like my nitrous oxide experiences.

### *Lessons from Noah*

Conspicuous among these psychedelic experiences are religious, mystical, and transcendental reactions. I wanted to study this behavior in an objective animal model. I decided to produce a "religious" pigeon which I nicknamed Noah (a friend of animals, he carried out a series of acts on command from God without real understanding). Firstly, I trained Noah to bend his legs and bow each time he saw a cross in his operant conditioning box. Secondly, I trained Noah to peck at the cross whenever he was hungry in order to be rewarded with food. Thirdly, I trained him to avoid painful electric shock by following a moving cross into "safe" non-electrified areas of the box. Lastly, I gave high doses of LSD to Noah while he was confined to a quiet and dark box illuminated only by a glowing cross.

Through such training I had given Noah a symbol (the cross) associated with superstitious behavior (bending the legs and bowing), positive rewards (food), relief from danger and stress (avoidance of electric shock), and mystical/psychedelic states (sessions with LSD). Noah's experiences were functionally equivalent to religious training. Subsequently, Noah was given LSD and subjected to several tests involving solving new problems, avoiding shock, and exploring mazes and new boxes. In all these tests, Noah displayed a dramatic propensity to remain near the cross, superstitiously bow before it, and peck at it in times of danger or uncertainty. In a sense, Noah's behavior was functionally equivalent to religious behavior in man: going to church (staying near the cross and following it around), genuflecting (bending the legs and bowing), and seeking sustenance and shelter (receiving food and safety from shock).

But could Noah, or other animals, have LSD-inspired mystical experiences as well? Walter Pahnke (an expert on LSD and religion) had listed nine characteristics of such peak psychedelic experiences: unity; transcendence of space and time; deeply felt positive mood; sense of sacredness; the noetic quality; paradoxicality; alleged ineffability; transiency; and persisting positive changes in attitudes and behavior.

A careful review of the animal LSD literature, including my own studies, suggested that such experiences may be present in animals. For example, Pahnke defined unity as awareness of being part of a dimension vaster and greater than oneself. With LSD, both pigeons and rats have vastly broadened thresholds to visual and auditory stimuli and can respond to a greater variety of stimuli than normal capabilities would allow. Pahnke's transcendence of time and space means the subject is disoriented in time and feels beyond ordinary three-dimensional space. Both pigeons

and rats when treated with LSD display unusual disruptions of behavior requiring timed responses. And psychedelic-treated monkeys cannot differentiate between real objects and three-dimensional projections of them (a method of reality-testing for monkeys and young children). Pahnke's deeply felt positive mood is shared by hallucinogen-treated chimpanzees and monkeys who display intense and overwhelming emotional responses (although most primate trips are probably bummers).

The sense of sacredness is defined as a nonrational, hushed response of wonder in the presence of inspiring realities. In animal studies, there are many examples where in the presence of shock signals, underwater mazes, and other inspiring realities, hallucinogen-treated animals ignore the signals and remain quiet in their presence, even when pain or survival is at stake. The ineffability of psychedelic experiences, often marked by suppression of verbal responses in man, is shared by psychedelic-treated animals, who frequently pause in operant responding and thereby fail to communicate information about their behavior to the experimenter. In man, these experiences pass into an afterglow and remain as a memory, a characteristic labelled transiency. I conducted several state-dependent learning studies with mescaline in mice and marihuana derivatives in pigeons, which show that the animals are capable of remembering the drug experiences and responding to similar experiences based on patterns established during the original treatment.

It could be argued that this does not add up to psychedelic-religious experience for animals because animals cannot tell us about their experiences. But animals confirm the presence of such feelings by reacting or responding to them, pecking at them, running towards or away from them, wailing, whimpering, or in some other way behaving as if religious experiences were present in the psychedelic state. The sheer abundance of studies reporting such phenomena cannot be lightly dismissed by our human vanity. Perhaps when we achieve fluent American Sign Language communication with the great apes we will know for certain. In the meantime, I have released Noah in the local park where, together with religious disciples of the human species, he can be seen soliciting handouts with his flock.

#### *Lessons in "Seeing"*

Observations on hallucinogen-treated animals like Noah increased my curiosity about the nature of the visual hallucinations themselves. I dreamed of putting a miniature camera behind the animals' eyes and catching a picture of what they were "seeing" during the psychedelic trips. In an effort to transform that dream into a reality, I designed a series of experiments with pigeons because of that animal's visual acuity (similar to our own) and proven ability to perform complex tasks.

To find out just what the pigeons were "seeing" during LSD sessions, I arranged a fairly complicated "matching-to-sample" experiment. This design permitted the pigeon to watch a screen on which visual stimuli (forms, colors, designs, pictures, etc.) were rear-projected by a special slide projector. The slides, which constantly varied from trial to trial, consisted of geometric forms, colors, and scenes. Many of them were obtained from commercial "psychedelic" light-show companies and represented the types of visual imagery reported in human hallucinogenic reactions.

Several response keys were located near the screen and each displayed a different visual stimulus. One of the keys would always display the same pattern that was shown on the screen, and the pigeon was trained to peck that key, matching his response to the sample projected on the screen. After acquiring this discrimination, the pigeons were given LSD and then periodically shown blank screens. Normally, they would not peck a key when the screen was blank, but under the influence of LSD's hallucinogenic properties they did. They were saying, in effect, "I see something on the screen, and it looks like the pattern on this response key." By carefully manipulating the patterns on the keys, I was able to get the pigeons to describe what they were seeing. Under LSD they saw mostly red lines and angular figures, while a marihuana-extract caused them to see blue geometric patterns. In similar experiments I found that monkeys under LSD saw tunnels and lattice designs, primarily in colors near the red end of the spectrum.

While I was pleased with my technical success in training pigeons and monkeys to report LSD visions, their trips were hardly thrilling. Furthermore, I realized that the same techniques could be applied to human subjects, whose psychedelic experiences promised to be infinitely more informative. I selected a group of human volunteers of "psychonauts" and trained them over a period of several months instantaneously to identify and classify visual stimuli—often the same slides used in the pigeon studies. They learned to make precise psychophysical judgments of the colors, geometric forms, movements, and allied dimensions of visual stimuli—a new language for seeing and describing. They became extremely good at this and rarely made errors. I then gave them varying doses of psychedelics (LSD, mescaline, psilocybin, ketamine, etc.) until I found a level which produced hallucinations but did not impair the accuracy of their training. I placed them in isolation chambers and asked them to describe their hallucinations in the technical language they had acquired in training. Since they had been accurate in describing the training slides, I could trust their descriptions of the hallucinations that their drug-excited brains were projecting in the isolation chamber. As a result of these and related experiments, I was able to begin mapping the inner hallucinatory experience I had always dreamed about. One of my findings was that this psychedelic-induced visual world is dominated by geometric forms and red colors—the same basic structure reported by the pigeons and monkeys. Given the similarity of the visual system in birds and primates, this is understandable.

### *The First Day of School*

Throughout these experiments I tried to remain as objective and scientific as possible. I refrained from personal psychedelic experiences, preferring to be taught the lessons through the behaviors of my intoxicated animals and through the highly trained eyes of my psychonauts. I don't think I ever quite got over my initial dizziness reaction to that marihuana-extract intoxication. Then one day while weighing out some LSD for an experiment, I accidentally absorbed a considerable quantity into my body. I had a classic experience. I had wanted my own personal encounter with LSD to be the last lesson, a kind of verification (acid test, so to speak) of the

teachings derived from my experiments. Instead, I realized there was much more work to be done and many more lessons to be learned. It was, in fact, the first day of school.

### *Reunion*

Some time later, I returned to my home town and visited Milt. We embraced. He asked me what I had been doing at school and what I had learned. I told him this story. I told him I could never forget him. Indeed, during one nitrous oxide intoxication in my laboratory I distinctly heard his voice say "open wide" as the dental drill whirled, and I even felt a tooth being pulled from my mouth. "Milt," I said, "you're still screwing up my trips. But I love you anyway. Thank you for being my first teacher." He replied, "I was your second teacher. Your first was the gas—you were always full of it." I laughed with him for the first time.

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## INITIAL INTEGRATIONS OF SOME PSYCHEDELIC UNDERSTANDINGS INTO EVERYDAY LIFE

Charles T. Tart

Ordinarily, when I sit down at my typewriter, I write as a successful scientist. In this craft I have learned how to weave hard data and tight logic to produce a clear argument. The role is comfortable for me now, after years of practice, although at the start of my career it was worrying, challenging, frustrating. Suppose I hadn't done the experiment quite right, or overlooked something that would be obvious to everyone else? Had made an interpretation that was illogical? Didn't know about some important background study? With application, practice, and experience, I have changed. When I write a scientific paper now, I know that I am skilled at science. I also know that I've undoubtedly overlooked *something*, but perfection is not a sane goal; only doing your best is.

Now I have been asked to write about my personal experience with psychedelic drugs and what I have learned from that experience; and it is like beginning again, but even more so. I could limit myself to my scientific role, report as accurately as possible on observations of myself as an experimental subject, and form reasonable hypotheses about why I experienced what I did. That course would be safe and comfortable. It would also be prudent: I do a lot of researching and theorizing in areas of science like altered states and parapsychology which are quite controversial, so it would certainly be wise to show that I have only logical and rational thoughts about my temporary excursions into a kind of chemical insanity. How better buttress the image of being a supremely reasonable scientist than to show that even my own "irrationality" can be used in the service of reason?

But that conservative course would be much less than I could do, and would not be true to my own understandings. I'm no longer a twenty-six year old with a fresh Ph.D. who needs to prove to himself and others how rational and scientific he is. In 18 years I've changed a lot (I like to think of it as maturing), partly as a result of some psychedelic experiences, mostly by learning from life. I like science, do a good job at it, and no longer feel a need to prove my competence to myself or anyone else. I know my science's

limits as well as its strengths. I've also discovered that I have a body and a heart. Most of the most important parts of my life have not been touched by science—especially matters of the heart. If I were a poet or a composer, perhaps I could "speak" of some of these matters more clearly; but I'm not. I know that the part of my mind which frames these words and thoughts is only a small (but very valuable) part of my body, so what I say here about things I've learned from psychedelic experiences is only a part of a part. Nevertheless, I can say something useful. For those used to the clarity of the scientific style of writing, you have my advance apologies for the occasional use of descriptions that are paradoxical. I suggest you will find it useful to let the occasional apparent paradox raise questions about the limits of our ordinary minds, rather than serve as an excuse to ignore parts of reality.

In speaking of limitations, I would note that I have had a number of psychedelic "trips," both in and outside formal laboratory settings, and the implications of the colloquialism "trips" are quite appropriate. I have seen a lot of psychedelic territory as a tourist, enough to convince me that while I am familiar with the highlights, I don't really understand the "country" or the "language" as a "native" does.

### *Depth of Understanding*

If I ask "What have I learned from psychedelic experiences?" in the sense of concepts and words to apply in my professional work and my life, then the answer would be: not much I didn't already know. The difference is in the experiential depth and reality of the concepts, their "flavor." This is a hard point to make in a verbally oriented culture like ours, where being able skillfully to use words is implicitly equated with understanding the realities they refer to. I share this prejudice myself, and it has taken me a long time to understand (sometimes) how little relation verbal facility has to real knowledge. The point was impressed and re-impressed forcefully and repeatedly on me for several years when I began to study Aikido, a Japanese martial art somewhat like Tai Chi or some forms of Karate. My instructor was not particularly verbal, and I found that within a few weeks I could explain (to outsiders) what Aikido was, the principles behind it, much better than my instructor could. Every time I was on the mat actually practicing, though, I was reminded that I knew absolutely nothing compared to my instructor. The real knowledge was not verbal. So it is with psychedelic experience: I could have verbalized most of the things I've learned fairly skillfully without those experiences, but looking back from the perspective of the psychedelic experiences, my real knowledge was very shallow.

### *First Experiences*

While finishing my psychology degree at the University of North Carolina, I occasionally visited friends at the Parapsychology Laboratory at Duke University. Through one of them I met a prominent European psychologist on sabbatical leave at Duke who had done some of the early studies on the effects of mescaline. He remarked that he did not know of any material on how Americans reacted to a drug like mescaline, and was curious about it. Thinking that an unusual opportunity had occurred (with-

out beginning to comprehend just how unusual it was), I volunteered to try some mescaline he had with him, since I was obviously "typical" and could therefore represent the American population! It was arranged that we would try the experimentation on a Saturday morning in a friend's office at the laboratory.

Saturday morning came. I skipped breakfast so that the drug effect would come on faster. I drank 400 milligrams of pure powdered mescaline sulfate dissolved in a glass of lukewarm tap water. The first sip convinced me that I was making a considerable sacrifice for the sake of science; the mixture tasted like warm vomit. We then waited for effects to begin. Two and a half hours later we were still waiting. The psychologist could not understand why nothing had happened; he was probably beginning to think that Americans were indeed different in some strange way from Europeans. The best I could report was that if I pressed forcibly on my closed eyes, the visual phosphenes, normally very dim, were perhaps 20 percent brighter than usual; this trivial effect hardly made up for the taste of the mixture. As a last resort, before calling it quits for the day, I drank another 100 milligrams of mescaline sulfate.

A few minutes later the most extraordinary event happened. Quite suddenly the room, a dingy office in an old college building, resembled a cathedral of enormous size and beauty. The colors of the furnishings were incredibly beautiful, full of deep texture and hues I had never seen before. Small objects around the office were magnificent works of art. My friends were surrounded by beautiful colored rainbows: indeed, within a few minutes rainbows were floating through the air everywhere. It was only after reflecting on similar experiences later in life that I realized that I had gone from no effect at all to the peak of the psychedelic experience in less than a minute or two.

To a student of psychology, the experience was fascinating beyond description. For example, it was the first time I really understood the concept of dissociation. To illustrate: at some point in the experiment one of my friends wanted me to do ESP tests, guessing at standard Zener cards. I had agreed to do this, but from my perspective at the time, I could not imagine a more trivial, uninteresting, and wholly inappropriate task. I resolved the problem by dissociating a part of my mind. It would generate the ESP symbols with no attentional involvement on my part and speak them aloud, as directed by the experimenter. After long intervals of exploring inner space I would occasionally check in and find that I was still dutifully calling ESP symbols, as I had agreed. The fact that a part of "me" could operate independently of "me" was quite clearly demonstrated. My ESP scores, incidentally, were at chance expectation.

This personal understanding was useful years later when I reviewed the small literature on attempts to enhance ESP with psychedelics, and saw at once how inappropriate the testing methods were for the subjects' probable mental state. Even more important for the development of my psychological understanding, this and other personal experiences of dramatic dissociation under psychedelics sensitized me to the importance of the concept and led me to notice how often less dramatic (but quite important) processes of dissociation occur in everyday life. Attempts to understand dissociation, such as Hilgard's (1977) neo-dissociation theory, will lead to important progress in psychology.

For me as a person, rather than simply a student of psychology, the most important thing about that first experience was that for the first time in my life I knew what the word "beauty" meant. True, I had spoken it thousands of times before, had pointed at objects I'd been taught to believe were beautiful and said the word in association with them, and had occasionally had vague, moderately positive feelings in connection with such objects. Now I understand that I had never even begun to penetrate what beauty was all about. While the incredible and intense immediate experience of beauty faded rapidly after the experiment, a door had been opened in my mind and senses that would never close completely.

### *Laboratory Subject*

As a graduate student I often served as a subject in laboratory studies of the effects of LSD and psilocybin. The work was done by Dr. Martin Keeler in the Psychiatry Department at the University of North Carolina. One aspect of these experiences that proved especially useful for my later experimental work on altered states of consciousness was the immediate understanding I gained of the inappropriateness of most conventional approaches to their study. Given scientific knowledge available at the time, Keeler's research was quite sophisticated. Given the inside, psychedelic perspective of a subject, the studies could show very little of real value. I shall give a few examples.

One of the tests was a symptom check list. Dozens of symptoms/experiences were individually typed on 3 x 5 file cards. I was to read each card and put it in a True box if I was experiencing that symptom, in a False box if I was not. From our ordinary perspective, this is a useful way of getting a description of ongoing experience in a form amenable to statistical analysis. From my inside perspective, I discovered almost immediately that the test was seldom merely an *assessment* procedure, it was usually an *induction* procedure: reading the description of a symptom suggested it, and if I happened to read it several times, the cumulative effect of the suggestions usually induced the experience.

Once I knew this, I controlled it. I might read, "Your palms are sweating green sweat," decide that would be interesting to experience, and read it several times to strengthen the suggestion. Then I would look down at my palms and see them sweating green sweat. The card would go in the True box. If I came across a symptom card like "I am feeling very anxious," I would throw it in the False box right away so it wouldn't have a chance to come true. The difference between assessment and induction has been very important in all my experimental work. I always remind myself that I (as experimenter) and my measurement instruments may be *creating* effects in subjects, not simply measuring what is already there. Losing sight of this possibility makes the experimenter more biased.

### *Set, Setting, and Control*

Many people writing about psychedelics have spoken of the importance of set and setting, a lesson my own psychedelic experiences taught me in great depth. The still predominant chemical model, which states that the

drug molecule interacts in some fixed fashion with the chemistry of the brain to produce a more or less uniform effect, is obviously inadequate. The chemical effects are organized and interpreted in ways most easily understood as psychological variables. For example, the reader may have wondered why, in my first psychedelic experience, I showed no response to 400 milligrams of mescaline, a quite high dose. Today it has become quite understandable to me.

On the conscious level, I was very interested in the psychedelic experience and looked forward to it. On an unconscious level I was extremely fearful of losing control, and therefore increased the intensity of various stabilization processes so much that the chemical effects of the drug did not cause enough destabilization to induce an altered state of consciousness. When the dose was increased to 500 milligrams, the destabilization effect became powerful enough to overwhelm my increased psychological stabilization: thus my unusual experience of going from the ordinary state of consciousness to the peak of the drug effect in less than a minute. In retrospect, I see that my fear was groundless—nothing terrible happened—but it was sufficient drastically to modify the effect.

I can recall other occasions in my psychedelic experiences as a laboratory subject in graduate school when this interaction of psychological and drug effects was quite obvious. Besides serving as an experimental subject, I occasionally assisted that study project as a research assistant. On several occasions when I and other subjects were simultaneously drugged, but the social situation called for some help in the research assistant role, I suppressed most of the drug effects; once the task was done I would let the drug effects again intensify. I can recall humorous occasions when several drugged subjects and several undrugged experimenters would all be in the same room and a visiting psychiatrist or psychologist would be asked to identify who was drugged and who wasn't. Their accuracy was often very poor.

### *Openness*

One of the most striking things I have learned from my psychedelic experiences is to be open and sympathetic to a wide variety of things to which I was formerly closed. I have often been struck by how much in ordinary life we define the "me" and the "not me," and the steps we take to preserve sharp distinctions. For example, I am a very intellectual person, and ordinarily find artists a strange and illogical breed. But if I take the trouble to remember my psychedelic experiences, or to re-induce aspects of that state, I know what it is like to see beauty in form, color, and texture, to become lost in and fascinated by the interplay of the elements of an object or scene, to create beauty. While the ordinary me may be an intellectual, I remember a small change, and I am also an artist.

I have seen my personality temporarily take on altered configurations during a psychedelic experience, and by remembering that I can empathize with other people more: *I* could feel like that, *I* could think like that, *I* could behave like that. I understand mental illness much better than ever before and empathize more with the suffering involved: *I* have been "crazy" in a variety of ways for periods of time. My ordinary self has little patience with

the kind of person we would call a "mystic," yet I know I have been a mystic, and I understand the urgency of that quest. This too is "me." I try to remember that while "me" is ordinarily tightly defined, this should not be a basis for rejecting the other, for I have some direct understanding of what it is like to be other than myself.

### *Creating Realities*

I have mentioned how I could make any item on a symptom questionnaire become true simply by concentrating on it, repeating it a few times in my mind. In the same way, I have been able, as it were, to create whole worlds; interrelated perceptions, thoughts, feelings, and actions constituting what is usually called fantasy, but may also be regarded as a new reality. Created with eyes closed, such constructed realities under the influence of psychedelic drugs were "realer than real." When my eyes were open, the constructed realities could make use of surrounding stimulus material to amplify and apparently validate themselves.

For example, I recall a day in the laboratory when I had taken some psilocybin. During the afternoon I was hungry, so someone brought me a bag of potato chips and then left me alone. I was in a laboratory room which had a one-way observation mirror set in its wall. I knew that I was frequently observed by one experimenter, and that there might occasionally be other observers, but this had never been of particular concern to me. For some reason I began worrying about it that day, and my reality rapidly changed to that of "The Beast and the Potato Chips." I noticed that I was dropping some crumbs of potato chips as I ate, that they fell on my clothes, and I thought how sloppy this was. I perceived an instinctual, driven quality to my eating, and began to feel like a beast consuming food rather than a person.

I perceived shapes moving dimly behind the observation window as if many people were observing, and I became acutely embarrassed at the thought that many friends and colleagues would now see how depraved, bestial, and sloppy I was. Yet I could not stop eating. A part of me was terribly ashamed, wanting desperately to behave, while the beast wanted nothing more than to continue to devour potato chips. I felt that my body was covered with slimy sweat, and saw it glistening. I smelled my own sweaty smell incredibly strongly. All my experience was overpowered by triumph of the animal in me.

It was quite definitely what was later to be called a "bummer"—and a good lesson in the way my mind could create a reality against my will.

Understanding our capacity to create such constructed realities by self-suggestion or suggestions by others has been very important in my work on altered states of consciousness. In my systems theory approach to consciousness (Tart, 1975), I begin by bringing to consciousness the implicit assumption that our ordinary state of consciousness is somehow natural and given. From my own experience and from observations of others, I have learned that our ordinary state of consciousness on the contrary is a semi-arbitrary construction. This is true of our perceptions as well as our thoughts and actions. Certainly there is some "hard-wiring" in the perceptual systems, but having experienced the immense number of ways

in which an object can be perceived in a psychedelic state, I realize how arbitrary (and often maladaptive) some of our apparently "natural" perceptions may be. The literature of developmental psychology has confirmed my feelings: our perceptions, interpretations, and actions are, in vital ways *constructed* in the enculturation process. Our "normal" state of consciousness is a (partially shared) constructed reality, and so must be examined, not taken for granted.

Realizing this had the important effect of making me more open-minded in investigating altered states of consciousness. My enculturated prejudice was to see them as pathological, but now I see how arbitrary, limiting, and just plain silly this is.

*Meaning, Paradigms, Metaparadigms, and Nonsense*

One of the most important developments in the philosophy of science has been Thomas Kuhn's idea of *paradigms* (Kuhn, 1962)—overarching, interconnecting sets of assumptions, often unconscious, that explicitly and implicitly define what questions it is legitimate to ask and what form the answers should take. I learned the reality of alternate paradigms directly from my psychedelic experiences. Whether a question was "sensible" or "nonsensical" depended on my state of mind. Things which I had been enculturated into accepting, the "obvious" and "normal" ways of perceiving, thinking, feeling, and behaving, seemed less obvious and normal from another paradigmatic perspective. What was obviously "me" could sometimes be "not me;" apparently "natural" structurings of importance and priority could change; serious things were often seen as trivial and irrelevant, while small things normally overlooked could become quite important.

Thus issues which were very important from my ordinary perspective could be seen in an entirely new light, sometimes as pseudo-issues. This shift included a kind of meta-perspective in which the existence of my own ego seemed quite trivial. Its survival or death, its gratification or suffering, were as nothing from some perspectives. This relativity also extended to scientific questions. In discussing methodological issues I have mentioned that standard tests are inadequate to capture the intrinsic nature of the altered state: indeed, they may be trivial and misleading from its paradigmatic perspective. I am not saying that scientific investigation per se is trivial, but rather that scientific questions can be seen as relative to perspective. (Really important questions remain valid from several perspectives.)

Some of my experiences could be more properly described as meta-paradigm shifts. It was as if several alternative paradigms dealing with similar subject matter could now be viewed from a "higher" or "outside" perspective that showed something about their fundamental nature. This verbal description is quite inadequate, but I recall that when I have been in those meta-paradigmatic states, my understanding has been perfectly clear. This is an example of state-specific knowledge, a subject I shall return to.

I suspected, sometimes afterwards and sometimes at the time, that some of the alternative paradigmatic organizations of consciousness might be "pseudo-paradigms" rather than organized and valid ways of knowing with their own logic. Under the influence of psychedelics, my mind could

create meaning out of whatever was available, meaning I might evaluate in retrospect as useful or as totally nonsensical. Some of the "nonsense," however, may seem that way only because I have lost the state-specific kind of understanding that produced it.

An example of the ready creation of meaning is a test we used in the laboratory to decide whether a subject had sufficiently recovered from the psychedelic drug effects to be allowed to go home on his own. Keeler had taken a number of ordinary proverbs, split them in half, and randomly mixed the beginnings and endings. To evaluate whether a subject would be allowed to go home, he would be asked something like: "Do you understand that birds of a feather gather no moss?" If he understood, he was not ready to leave the laboratory. The capacity of the mind to read meaning into random collections of stimuli is indeed extraordinary. Even today I suspect that that particular proverb could be quite meaningful in certain circumstances. One of the most important professional benefits of becoming sensitized to this hyper-creative faculty of the mind is a certain caution about feelings of insight. I know how much I enjoy such feelings, but I also know that their intensity does not guarantee their applicability and validity in any particular situation.

#### *State-specific Knowledge and Science*

I have mentioned the state-specificity of knowledge, the fact that in a particular altered state you may understand something, but once that state is no longer present you cannot comprehend your earlier understanding. Note that I emphasize *state-specific* knowledge rather than *drug-specific* knowledge. As I've argued elsewhere, what particular altered state of consciousness is created by psychedelic drugs depends on many things besides the drug itself (Tart, 1975). Altered states, especially those induced by psychedelics, hold out the lure of other kinds of knowledge, often apparently "higher" and more satisfying than the knowledge attained through the abstract, hyper-intellectual processes of ordinary science. Unfortunately, as I have suggested, the enhanced meaning-creating ability of the mind in such states also allows it to endow total nonsense with great depths of experienced meaning and insight. One of the greatest dangers of altered states in general and psychedelic drugs in particular is this power to lure us into a deeply satisfying world which might be constructed of far too great a degree of personal fantasy, personal nonsense, and personal psychopathology.

The traditional scientific response to such inner experiences, especially if they are suspected of containing nonsense, is to declare them illegitimate data. Historically this has been reflected in psychology's rejection of introspection and switch to behaviorism as a primary methodology—a technically necessary maneuver at one stage in the development of psychology, but one that eliminated its most important subject matter. My psychedelic experiences (as well as other data) convinced me that important inner experience does not have to be rejected in this way. Even state-specific experience which cannot be adequately recalled or understood in an ordinary state of consciousness may be susceptible to study. While intoxicated I frequently asked myself scientific questions, thought about how experiments might be arranged to test the consequences of certain kinds of state-specific understandings, and so on. These may have been grandiose thoughts for a begin-

ner, an infrequent traveler to strange lands rather than an experienced native; but they convinced me that much of what seemed "ineffable" could be studied scientifically.

In my 1972 paper in *Science*, "States of Consciousness and State-Specific Sciences," I argue that the essence of scientific method is an interaction between data collection/experience, interpretation/theorizing, testing of new consequences (predictions) of the concepts and theories, and sharing of experience and conceptualizations with colleagues. In principle internal experiences could constitute data, and altered styles of thinking, alternative logics, which occur in specific altered states, could be applied to the data. This would produce a state-specific science; a scientist would enter the appropriate altered state of consciousness to make special kinds of state-specific observations, formulate hypotheses with the state-specific logic available, work out and test the consequences of that logic on other internal state-specific observations, and share all phases of this process with colleagues (also in that state) who would correct, refine, and amplify the investigation. Technical details are available in the original paper (Tart, 1972). We may not be mature enough to begin such undertakings in any really effective way yet, but the discipline of scientific method will ultimately be extremely helpful in understanding the phenomena found in psychedelic experiences and other altered states.

I want to add an important caveat on scientific method. As Abraham Maslow pointed out in his too little read but exceptionally fine book, *The Psychology of Science* (1966), science is a tool whose usefulness depends on the qualities of the user. Scientific method can be used to enhance functioning and personal maturity, or misused as a highly prestigious form of rationalization—one of the best neurotic defense mechanisms around. The application of scientific method to the phenomena of altered states requires a delicate balance in the practitioner between openness to new experience and a realization that we often love to fool ourselves and are very good at it. The discipline of testing the consequences of understanding through science is vital, but this "hard-headedness" must be an accepting, loving hard-headedness: to the extent that it results from self-rejection, it will be destructive. Ultimately, I have great faith that the development of state-specific sciences will increase our understanding of ourselves and our world, but in the short run I expect enormous variability and a fair amount of craziness as we work through our resistances in this new endeavor.

### *Glimpses of the Lost and the Vital*

Psychedelic drugs, by disrupting some of my acquired, enculturated mental processes, allowed the emergence of earlier, more childlike psychological processes. The result was sometimes very positive. As William Wordsworth put it,

There was a time when meadow, grove, and stream,  
The earth and every common sight,  
To me did seem  
Apparelled in celestial light,  
The glory and the freshness of a dream.

Reflecting on his current adult status, he went on to write,

It is not now as it hath been of yore;  
 Turn whereso'er I may,  
 By night or day,  
 The things which I have seen I now can see no more.

(Wordsworth, 1803-6)

This loss of our child-like simplicity, innocence, and wonder in the course of enculturation is also expressed in the religious allegory of *The Fall*. Something very vital, essentially individual, deeply personal, is neglected, suppressed, and repressed in the process of making us "normal," the process of cajoling, frightening, manipulating, conditioning, and "educating" us so that the internal structure of our minds reflects the values of our particular parents and culture. I have come to believe there is something inherently costly in the process of enculturation, regardless of what culture it takes place in. Some part of us knows that an essential part has been lost, and culture does not provide adequate compensation. Thus the longing for the "good old days," for a more perfect world. For me, psychedelics allowed me temporarily to be a child again. It was only a glimpse, though, and much personal psychological work has been required to follow the glimpse and begin to integrate this vital core of self into adult life.

The learnings it is hardest to speak of are intimations of the spiritual. I refer not to organized religious systems, but to the core experiences behind these socialized (and often distorted) derivatives. Words are inadequate, my own understanding is inadequate, and really to touch on this subject requires skill in speaking "from the heart," rather than "from the head." My training as a scientist has not given me this skill. Let me simply say that I have learned something about the smallness (but not worthlessness) of my understanding, something of what people hint at when they speak of the "spiritual life," and something of the kinship of life. It is frustrating that the most important experiences are those I am least able to talk about, but that is the reality.

Sometimes I ask myself, "Would I like to do it again?" For many years the answer has been "no." The insights and experiences I had years ago have been extremely valuable, especially when I have "brought them down to earth," tried to apply them in everyday life. Too, my personal psychological growth practices have produced a day-to-day clarity of consciousness and self-understanding which I value very much. In addition to insights, my psychedelic experiences also contained much confusion and fantasy which I am not particularly interested in re-experiencing. The major use of psychedelic drugs is to stimulate some insights; too much psychedelic experience interferes with bringing these insights into everyday life.

Many of my psychedelic experiences cannot be understood in my everyday state of consciousness, but I am not seriously tempted to try again to gain understanding anew. These experiences are not really lost, even though I cannot bring any obvious and clear part of them back. They did open a door in my mind and heart, and having glimpsed what is beyond the door, I hope to grow toward that vision in the course of my ordinary life.

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## NEW LEARNING

### Thomas Bradford Roberts

It didn't make sense. Their speech was clear, their thoughts logical, and their ideas and descriptions coherent. We were fellow graduate students in a Stanford seminar on the human potential. They were describing their first LSD trip, taken the previous Saturday. And it didn't make sense—to me—then. Like almost everyone else in the late 1960's, I had learned that LSD was a dangerous, mind-altering drug, one that sensible people didn't take; but they seemed sensible both before and after. I had learned that LSD alienated people and ruined relationships; but this young, married, graduate-student couple had shared a deep and meaningful experience that brought them closer together. They talked of increased love for each other and for humanity. I had learned that LSD makes people suicidal, jumping out of high windows and that sort of thing; yet they seemed well-grounded and down to earth. I had learned that LSD makes people hysterical and psychotic; but they seemed relaxed, rational, and reality-oriented. I learned that LSD puts one into a nightmarish hell, full of terrifying hallucinations and Goyaesque agonies; they described a feeling of overwhelming awe for the beauty surrounding them. They said things felt "more sacred, more intense, and indescribably wonder-filled." I had learned that LSD drives one mad, yet they seemed saner than ever. I had learned that LSD was an escape into unreality; yet their lives seemed to be enriched somehow. A few others in the class nodded understandingly, and exchanged words and smiles of warm recognition—even a sort of congratulation! This didn't make sense. We weren't a class of long-haired freaks. We were hard-working, high-achieving, graduate students from engineering, the social sciences, humanities, and assorted professional schools. This didn't make sense at all.

It does now. LSD helps people experience all these things, good and bad, and many more. Like most people in the late 1960s and early 1970s, I "learned" about LSD from TV, newspapers, and magazines. I "learned" that doctors, psychiatrists, and psychologists were treating many patients who were suffering from "LSD psychosis." I "learned" that LSD was responsible for changes in social mores, sexual openness, political activism, and a whole cultural shift.

Since then, however, through my own experiences with psychedelics and subsequent readings stimulated by those experiences, I've learned it is easier to learn an erroneous opinion than to correct it. The popular news

media prefer to focus public attention on the spectacular, bizarre, and frightening. Mental and physical health professionals see only those who have problems; sick people are their clientele. A person who took LSD with beneficial effects would hardly be likely to take the time and money to go to a doctor and report that he is well. Finally, some of the experiences one commonly has during psychedelic sessions run directly contrary to the dominant intellectual positions of the 1960s, which assumed that any deviation from our ordinary state of consciousness, especially a mystical state, is error or sickness. Today's sciences and psychologies are accommodating additional views, but in the sixties and early seventies such positions were intellectually heretical.

I followed the academic orthodoxies of the time. A son of educators, reared on the campus of a New England university, member of a highly rational Congregational church, undergraduate devotee of behavioral psychology at Hamilton College, I became a doctoral student who planned to study educational tests and measurements and computer-assisted instruction while picking up an MBA on the side. To me *mind* was limited to *intellect*, and intellect implied reason, cognition, and their verbal expression. Who would expect such a person to advocate the development of nonverbal, nonrational, and non-cognitive mental abilities? I certainly wouldn't; but I certainly do. This widened definition of mind marks a major effect of my own LSD experiences. LSD has stimulated a new interest for me in examining human learning, experience, thinking, and behavior in terms of states of consciousness (SOCs). This essay exemplifies the fun of thinking in a consciousness way.<sup>1</sup>

NOTE TO MY STUDENTS: From my experiences and through reading, I have become increasingly respectful of the power of LSD. Like any powerful thing, it can be either destructive or constructive depending on how skillfully it is used. Among other things, it can concentrate your attention on the most vulnerable, most unpleasant parts of your mind. These should be explored only under the guidance of a qualified therapist, one who has had extensive psychedelic training. If you need help, most currently-trained mental health professionals are unlikely to be able to help you; in fact, because of their mistraining, they are likely to worsen your state. Furthermore, street dosages are of unknown strength and questionable purity. Until the time you can explore your mind using LSD of known strength and purity under qualified guidance within the law, I urge you to limit yourself to studying the literature and to working within professional and other organizations for the resumption of legal, scientific research.

### *Perception-extender*

Like a microscope, LSD magnifies. Instead of magnifying things outside the body, it magnifies inner experiences. Memories, ideas, fantasies, perceptions, thoughts, emotions, fears, hopes, sensations, bodily

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<sup>1</sup>My apologies to grammarians offended by the noun "consciousness" used as an adjective. I do this because "conscious" has misleading common usages. Avoiding grammatically correct but lengthy phrases such as "the psychology of states of consciousness," or "education which takes states of consciousness into account," I opt for a simple, useful, and ungrammatical barbarism by stipulating my adjectival use of "consciousness" to mean "pertaining to states of consciousness."

processes, any one of these can in effect come to occupy a person's whole attention. This amplification, like that of a microscope, allows the experiencer to investigate parts of his or her mind with increased attention to the enlarged details. But, again like a microscope, it narrows the field of perception, often temporarily distorting the relationships among the parts. As with slide views through a microscope, an LSD researcher must assemble a collage of close-up fragments to obtain an overall view of his or her own mental experience, and still more pieces for an overall map of the human mind.

This essay neither describes these fragments nor composes a collage. That has already been excellently done (e.g., Masters & Houston, 1966; Grof, 1975); and the research is surveyed by Grinspoon and Bakalar (1979). My purpose is to look at the influence of psychedelic experiences on myself and to speculate about the implications of these experiences for the world of learning. The essay assumes that studies done to date will be confirmed by additional research. If past experiences is any guide, some will be and others won't. The sooner we are clear about which ones, the better off we will be.

One thing is clear: LSD (I am using "LSD" as shorthand for the whole class of psychedelic drugs) raises exciting and important questions. As an amateur psychologist, I am interested in what LSD indicates about the mind. As an educational psychologist, I am curious about the implications for learning and development. As a human being and a citizen of my country and my planet, I wonder what insights it provides for culture and society. This essay is an attempt to think about these issues rather than to solve them; to bring them forward for open, intelligent discussion rather than to keep them buried in an intellectual underground; to encourage additional careful, legal research and its open communication rather than clandestine, illegal research and word-of-mouth rumor. Although this essay is based on my own experiences, it reflects more than my individual case. Most of the ideas are common currency among my consciousness colleagues. The essay is more collection than creation.

### *Learning*

I've titled this essay "New Learning" for several reasons. As an educational psychologist, I'm interested in the implications of LSD research for the study of human learning and for further human development. Through LSD experiences I have learned to look at myself and society in a new way. These experiences have been, in effect, an additional higher education for me, equal in impact, effort, knowledge, beauty, and scope to obtaining a doctorate at Stanford. I value both sets of experiences highly. To me, the LSD-Stanford comparison shines brightly in both directions. Besides, this is a book written largely by and for educators and others who want to increase learning. Finally, I use the gerund to connote a continuing process. The educational topics, philosophical issues, intellectual questions, and personal insights which evolved from my LSD experiences and subsequent investigations are a continuing source of growth. They have piqued my curiosity about areas of literature, religion, anthropology, and

philosophy that I underrated before. The sciences, social sciences, and arts have taken on additional coloration and deeper meanings. In a very real sense, LSD experiences resemble a liberal education.

## ISSUES, TOPICS, AND QUESTIONS

I developed an interest in this essay's ideas directly through my psychedelic experiences and indirectly through reading largely stimulated by these experiences. This is not to say that LSD is the only road to such ideas. Clearly, it isn't. But in my experience and in the experiences of some of my friends and colleagues, LSD was our road.

## MINDMAP, MYSTICISM, MORALITY, AND METHODOLOGY

### *Redrawing the Mindmap*

Stanislav Grof may well be the living Western psychologist with the widest and deepest sample of human psychological behavior. He, his patients, and co-experimenters have crossed and recrossed the mental terrain. Their combined observations have strength not only because of their own diversity (other mapmakers have used diverse populations) but primarily because they have systematically mapped previously excluded regions. From a sample of approximately 4,000 LSD sessions with a wide range of psychotics, neurotics, and normals, he describes a four-level mind-collage in *Realms of the Human Unconscious*. The shallowest level consists of current thoughts and perceptions, the "Abstract and Aesthetic Level," as Grof calls it. The second level consists of experiences and fantasies of the person's life. Most therapies focus on this level, and Grof calls this the "Psychodynamic or Freudian Level." Below this is the "Perinatal Level," having to do with experiences at or around birth; this level is associated with the work of Otto Rank. These three levels all have to do with experiences of the person. Beyond this is a region where personal identity, time, and space become variables. This is the "Transpersonal Level."

If Grof's map served only in therapy and simply as a phenomenological record of LSD experiences, it would be a useful curiosity, but otherwise unimportant for the world of learning. But the map is also congruent with the mindmaps of powerful thinkers from several fields, notably the humanities, who draw on many cultures for their evidence.<sup>2</sup> This convergence of disciplines presents a view of the human mind in agreement with current views in some particulars, but at variance in others.

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<sup>2</sup> In contradistinction to writings on the psychedelics which are occupied with experiences the mind can *have*, the concern here is with evidence they afford as to what the mind *is*. Judged both by quantity of data encompassed and by the explanatory power of the hypotheses that make sense of this data, it is the most formidable evidence the psychedelics have thus far produced. The evidence to which we refer is that which has emerged through the work of Stanislav Grof. (Huston Smith, *Forgotten Truth: The Primordial Tradition*, p. 156).

*Experimental Humanities?*

The disciplinary regularities described by these authors and the general worldview they present were derived from large-scale surveys of their fields. Grof's LSD research goes beyond this to experimental verification which confirms their findings. Humanistic studies in turn help to corroborate psychedelic observations. Psychedelic research's roomy additions to the house of intellect make it possible to found new disciplinary specialties that hybridize science and the humanities, for example, experimental symbolism and "experiential philosophy." All the books mentioned in Figure 1 (p. 241) explicitly derive their ideas from altered states of consciousness, yet our academic community is predominantly consciousness-naïve. Studies of human nature and the human mind which omit non-ordinary states are clearly incomplete.

*Mysticism and Mysticism*

A decade ago I, too, had learned the standard scientific orthodoxy on mysticism: I despised and caricatured mysticism as a view that the world is basically unknowable and that reason and observation are useless, probably confusing. What would I, as a rational human being, have to do with this holdover from the Dark Ages? What good was a psychology that valued such trash?

After experiencing mystical states several times and reading a bit about them, I now realize that I failed to make an important distinction. Mysticism as a *philosophical* stand on what can be known and how it can be known differs greatly from the study of mystical events as *psychological* experiences. My rejection of philosophical mysticism had led me blindly to reject the psychological study of mystical experiences.

Several current psychotechnologies, including LSD, increase the likelihood of mystical experiences. Now that we can stimulate them, we can begin to bring to bear scientific experimentation. Richards' dissertation, *Counseling, Peak Experiences and the Human Encounter with Death: An Empirical Study of the Efficacy of DPT-assisted Counseling in Enhancing the Quality of Life of Persons with Terminal Cancer and Their Closest Family Members* (1975), illustrates the scientific study of mystical states. His work includes a survey of the literature on experimental mysticism, repeatable treatment, standardized observations, and confirmable/disconfirmable hypotheses and conclusions. The study is replicable.

*A Science Growth-Spur*

When science expands, education follows. With consciousness pioneers opening access to new territories, whole ranges of human abilities are already beginning to be developed. For example, in the 1960s I was taught that people could not voluntarily control the autonomic nervous system—the "vegetative nervous system," as my biology text pejoratively called it. In 1980 we teach that one can learn to control this system by biofeedback, meditation, yoga, and various uses of imagery. As with biofeedback-

learned states of consciousness, the study of psychedelic-stimulated SOC's is, in principle, not opposed to science and reason. On the contrary, the refusal to study them is both unreasonable and antiscientific.

### *The Therapeutic Effect of Mystical Experiences*

What did Richards and others discover across the Appalachians of the Mind? When the travelers returned, had they been driven crazy? Neurotic? Psychotic? Were they out of touch with reality? Did they withdraw from family, friends, and loved ones? "Yes," said the stay-at-homes, clutching their psychoanalytic maps. "Beyond these mountains live fearful beasts. Let no one enter there."

The travelers and their guides, however, told different stories. Some alcoholics and addicts dropped their dependencies. Suicidal patients discovered a love of life. Some who departed neurotic and psychotic returned improved, although many needed several additional trips. Patients with terminal diseases felt less fear of death, and their general anxiety was lowered. Most of all, they related honestly, lovingly, and openly with their families and closest friends (Grof, 1975, 1981; Grof & Halifax, 1978; Richards, 1975; summarized in Grinspoon & Bakalar, 1979).

If mystical experiences are integrated into the personality, they are highly therapeutic. Single-state scholars and theoreticians are hard-pressed to explain this therapeutic value. Denial is easier. But if an enlarged map of reality includes altered states of consciousness, then experiencing such states logically leads to a fuller view of reality, and therapists tell us that a fuller view of reality is therapeutic.

### *Moral Development: A Second Path?*

Bits of observation may fall together in unexpected ways when a new methodology presents a new data or a new way of thinking reorganizes existing observations. Looked at from a consciousness perspective, some issues surrounding moral development combine in a startling way. Four bits of information are linked together:

First, mystical experiences, or peak experiences, are by their nature non-ego states, i.e., transpersonal states. It is not surprising that people who experience this state report a decrease in such ego needs as the neurotic accumulation of wealth or power. In *Religions, Values, and Peak Experiences*, Maslow reports this value-shift during peak experiences (1964), and Huxley claims it is part of most major philosophical traditions (1944).

Second, during peak or mystical experiences, people directly experience what Maslow calls "being values," and what Kohlberg calls "universal moral principles." These include such things as the sanctity of life and compassion.

Third, these qualities then act as goals or motivations for future actions. Personal compassion, social responsibility, global awareness, and a cosmic perspective grow.

Fourth, LSD, the new therapies, and other psychotechnologies can trigger, or at least facilitate, peak or mystical experiences.

Putting these four together we have a sequence from the new therapies to mystical experiences to "being values" to moral action. Have we unintentionally, blindly, and unknowingly stumbled onto another path of moral improvement? Have we discovered rapid, even chemically-induced moral development? My emotional reaction is an indignant "No, it can't be!" Yet, that is what some of the evidence suggests. In any case, the relationship between mystical states and morality is my nomination as the most-needed piece of consciousness research.

Because it is based on the study of many states of consciousness, the psychology of consciousness includes a greater number and wider variety of observations than a single-state psychology. It offers a source of hypotheses and research designs. However, we should remember that many early findings are probably inaccurate. Great contributions and great mistakes are twins of new paradigms. Because of the newness of consciousness research, some variables are probably still hidden. This speeds up the frequency of disconfirmations, and slows confirmations. An organized research agenda, regular dissemination channels, research conferences, and so forth are now appropriate for this field and will help separate false hopes from hot leads.

### *Methodology—Down the Mind Mine*

The greatest advances in civilization, science, and learning often result from new ways of doing things, new methodologies. In my judgment the most important thing about psychedelics is that they give us a powerful and broadly applicable research methodology.<sup>3</sup>

The typical Western approach to studying the mind is to look at its activities and products and to infer its structure and functions from them. Studying the great religions, philosophies, and psychologies of the world, what similarities do we find? What do language and literature indicate about the human mind? This is the research method of many of the authors in Figure 1. One minor benefit of psychedelic research is that it adds a few novel boulders to the mountain of human experience. A larger contribution is that psychedelic insights offer ways to categorize some of these observations and ways to specify relationships among them.

The second major Western way to study the mind is to look at abnormal behavior to see what it indicates. Here, too, the evidence is largely descriptive, although current therapeutic interventions add some clinical and experimental notes. Psychedelic and psycholytic therapies add to the knowledge we receive via this route. Because psychedelics were developed and used in recent history for therapy rather than for intellectual research, a misleading connotation of mental illness as their only appropriate domain blinds people to their research potentials elsewhere. Instead of inferring the structure of the mind from its surface geography and from occasional

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"Obscurantism is the refusal to speculate freely on the limitations of traditional methods. It is more than that: it is the negation of the importance of such speculation, the insistence on incidental dangers. . . . Today scientific methods are dominant, and scientists are the obscurantists." (Alfred North Whitehead)

FIGURE 1. Toward a Twenty-First Century Mindview

Investigator(s)	Discipline/Field	Date	Title
J. Campbell	symbolism and mythology	1949	<i>The Hero with a Thousand Faces</i>
J. Campbell	symbolism and mythology	1972	<i>Myths to Live By</i>
S. Grof	psychotherapy	1975	<i>Realms of the Human Unconscious</i>
S. Grof & C. Grof	thanatology	1979	<i>Beyond Death</i>
S. Grof & J. Halifax	thanatology and anthropology	1977	<i>The Human Encounter with Death</i>
J. Halifax	anthropology	1979	<i>Shamanic Voices</i>
A. Huxley	philosophy	1944	<i>The Perennial Philosophy</i>
A. Maslow	psychology	1964	<i>Religions, Values and Peak Experiences</i>
R. Masters & J. Houston	psychology and education	1966	<i>The Varieties of Psychedelic Experience</i>
J.W. Perry	abnormal psychology (schizophrenia)	1976	<i>Roots of Renewal in Myth and Madness</i>
H. Smith	religion	1976	<i>Forgotten Truth</i>
K. Wilber	religion, philosophy, and psychology	1981	<i>Up from Eden</i>

interventions, psychedelic methodology provides direct access to the underground veins and strata, the deep structures and processes where thoughts, feelings, and motivation originate.

Fortunately for researchers, sometimes in these states it is possible to alternate between deep mental experience and a close-to-normal state. They can even happen simultaneously. For example, once toward the end of a psychedelic session I remembered a group of childhood nightmares. At the time they had the quality of immediate experience rather than memory. Every few minutes, I got up from bed to make notes on these experiences, then returned again to re-experience them. The period of alternating states lasted about 20 minutes, and I was able to recall and record "childhood nightmares" which included the name of a playmate whom I hadn't thought of for over a quarter of a century. Some of these dreams came from very early childhood and perhaps infancy. From this experience, I hypothesized that some early childhood nightmares are birth memories. This was not a new idea, but it was newly credible to me.

As I look at my colleagues' professional contributions, I find, rightly or wrongly, that I evaluate most highly the ideas of those who are experienced in various states of consciousness or who are at least familiar with the research from reading. Within the consciousness group, I trust the theories and hypotheses of psychedelic researchers more than those of LSD-naïve researchers. Researchers with knowledge of several states have an even greater advantage. This is not to say that all good research is psychedelic

nor that all psychedelic research is good research. Obviously, this isn't the case. But as a general rule, it is preferable to generalize from diverse observations rather than from a narrower field. I predict that by the end of this decade, psychologists, philosophers, and educators, as well as mental and physical health practitioners who are unfamiliar with consciousness research will be as out-of-date as they would be today if they were unfamiliar with Freud, Skinner, or Piaget.

### *Professional Creativity*

The work of Harman et al. (1966) indicates that psychedelics may be a useful methodology in the incubation and illumination stages of creative problem-solving. Most of the engineers, physicists, mathematicians, architects, and designers in his samples reported valuable solutions to their professional problems from psychedelic acceleration of creativity. This synthesis-facilitating use of psychedelics is different from the mind-research mentioned above. We need more systematic research on how to do psychedelic research. An unfortunate side-effect of psychedelics' illegality is that the publication and sharing of the methods and findings is discouraged.

## EDUCATIONAL FUTURES IN A CONSCIOUSNESS CONTEXT

### *Consciousness Roots of Mental Fruit*

When consciousness (the overall pattern of mental functioning) is seen as a group of variables, cognition, perception, affect, and so on, are seen as psychological processes embedded in SOC's with each other and with other psychological processes. All our cognitive structures and mental processes seem to vary from one state of overall psychological functioning to another. How much variation in thinking is there from state to state? What alternate forms of thinking exist in alternate patterns of mental functioning? What, if any, uses might they have for humanity?

### *Failure to Recognize the Primacy of States of Consciousness Is the Major Intellectual Error of our Times*

Present ideas of the mind are almost wholly derived from our ordinary state's experience and cognition and are for use within it. Although contributions to them may well have been aided by reverie or other nearby SOC's, we ignore these origins.

We are largely hunter-gatherers of the mind. Its civilization has just begun. We trim and prune here and there. We espouse diverse facts with convenient theories. From a consciousness perspective, increased harvests depend on acknowledging thought's deep roots in other SOC's. A mind cultivator not only weeds the surface ideas, but also tends the conceptual and preconceptual soils.

The idea that such inner-directed attention is narcissistic is a peculiar one. While they may be stimulated by external events, aesthetic creation and awareness, problem-finding and problem-solving, judgments of qual-

ity, spiritual experiences, intellectual and other mental processes are all internal events, processes happening "inside the head." Calling inner-directed attention "narcissistic" or "me-oriented" is inaccurate, anti-intellectual, and just plain ignorant.

### *Cognition and Consciousness*

Can one intentionally improve inner processes? Some improvement comes from better ideas, that is, more accurate, useful, and varied concepts. Focusing on better cognitive strategies to process or manipulate the content, cognitive psychology asks a higher, second-level question: whether there are more efficient ways of thinking. Consciousness studies ask a third-level question: How do cognitive strategies and cognition vary from state to state? From a cognitive perspective, different states of consciousness are, among other things, radical reorganizations of information-processing systems and strategies. Different states of consciousness also provide different "strategies" of perception, abilities, memory, emotion, etc.

At each level, the degree of mental freedom increases. It is no accident that mystical experiences are associated with an open-minded tolerance for ambiguity (Thomas & Cooper, 1980). This kind of tolerance is also correlated with abstract thought, creativity, decreased prejudice, and low authoritarianism. From a consciousness perspective, the first pair are associated with higher stages of mental development, the latter pair with decreased ego involvement. The two occur together.

### *Consciousness Education*

Before LSD drew my attention to state of consciousness as a variable, I accepted the usual cognitive goals of education: knowing more facts and learning to think better, avoiding fallacies, moving up Piaget's stages of intellectual development, finding more useful concepts and theories, matching theory with observations, and so forth. While I still value these aims, I now see them in a different context.

The items below are discussed more thoroughly in *Consciousness, Psychology, and Education* (Roberts, 1980a).

First, education has focused almost entirely on developing the cognitive skills of our ordinary state. I am not suggesting that we change this, at least not yet. But we should be aware that this is a policy decision, not a necessary "given." What forms does cognition take in other states?

Second, human abilities and disabilities depend on various broader patterns of overall mental functioning, states of consciousness. As SOC's change, certain skills are enhanced and others are diminished. Previously rare or unusual abilities, such as parapsychological abilities and the placebo ability, may be learnable by providing access to the states of consciousness where they reside. Many human physical and mental disabilities seem to be best treated in unusual states of consciousness such as hypnosis, meditation, and psychedelic therapy. So-called "spontaneous remission," "miraculous" cures, and "therapeutic touch" all seem to be associated

with changes in SOC. In institutions other than schools (and perhaps some day in schools) people may want to explore and develop the capacities manifested in these states of consciousness.

Third, abstract formal operations do not necessarily represent the highest type of intellectual development. That may be true for our ordinary state (including suggested stages beyond Piaget's); but other (perhaps more advanced) forms of intellectual development with stages of their own may await us in other states.

Fourth, educators and psychologists need not define *intelligence* solely in ordinary-state ways. Intelligence may also be seen as the general ability to use a large number of mental patterns (states of consciousness), as the ability to select and enter the most appropriate SOC for the task at hand, or as the optimum use of each specific SOC. In this last sense the meaning of "intelligence" varies from state to state (Roberts, 1980b).

Fifth, there is a contextual broadening best described from a psychoanalytic perspective. This view sees secondary process thinking (rational, adult thinking) as optimal. It now seems to me that there is at least tertiary thinking, which consists of selecting one's overall pattern of mental functioning. This is a higher ability than learning to use any specific pattern or one of its resident abilities.

Sixth, education in our usual state and all the research and development surrounding it become additionally important viewed in this context. Current educational goals, objectives, methods, curricula, tests and measurements, developmental stages, taxonomies, philosophies, and practices may all have analogues in other states. How do we adapt our ideas about our current SOC and its education to other SOC's?

### *Liberal Education*

As its name indicates, liberal education is an education for freedom: freedom from the accidents of locale, group, time, class, and so on. It offers the freedom to develop one's mind fully. Consistent with these objectives, consciousness education adds the great states of consciousness to the great ideas and great thinkers. The historic role of SOC's in the humanities, arts, and sciences is neglected in current education, even as content, despite an occasional titillating exception such as *Kubla Khan*, bacchanalia, or a maligned saint's misconstrued ecstasy. These are used more to enliven classes than to teach about the further reaches of mind. A truly liberal education should teach students about this part of themselves and our civilizations, and should also give them rudimentary experience with selected states and their resident capacities. Enriched by a consciousness perspective, liberal education can extend freedom and mental refinement far beyond the parochialism of single-state learning.

### *Placebo Ability*

We use a misnomer when we speak of "the placebo effect." "Effect" attributes improvement to spurious treatments which are selected precisely because of their lack of effect. The label is not only a logical inconsistency which explains nothing, but a barrier to research.

If "placebo-ing" is seen as something we do, rather than something that happens to us, it becomes an ability like any other human ability, one which might be learned and practiced. Regimens such as prayer, visualization, deep relaxation, and an assortment of religious and psychological practices make good "placeboing" sense. Physical educators should help their students learn to assist their own natural immune mechanisms, which are part of the placebo ability. Wellness and illness are largely long-term physical performances. We know they can be learned and unlearned, but we do not yet know the extent of this learning.

*Consciousness Studies, a New Discipline*

What makes a discipline and differentiates it from other disciplines? At least the following: separate theories and concepts, specific problems addressed, explanations of observations not otherwise explained, applications to life, a distinctive research methodology, a separate literature, and an identifiable group of people who share interests, professional organizations, publications, and a system of information flow. By these criteria, Consciousness Studies will soon deserve its own place in the academic world.

Consciousness methodologies include traditional and new ways of altering consciousness. Accepting both outside, objective evidence and inner, subjective evidence, it offers a larger data base than either of these alone. Correlating the two is an important type of research. Training in subjective research methods, for example through meditation or LSD, is as cognitively demanding as traditional statistics, research design, and instrumentation. As Needleman (1975) says:

In our modern world it has always been assumed. . . that in order to observe oneself all that is required is for a person to "look within." No one even imagines that self-observation may be a highly disciplined skill which requires longer training than any other skill we know. . . . The. . . bad reputation of "introspection" . . . results from the particular notion that all by himself. . . a man can come to accurate and unmixed observations of his own thought and perception.... the heart of the psychological disciplines in the East and the ancient Western world consists of training at self-study.

Consciousness Studies form its related fields. Parts of the scientific community have difficulty accepting data from other SOC's, just as our ancestors found it hard to accept observations from the telescope and microscope. If it is done properly, consciousness research can meet the requirements of scientific method: observation, free communication, replicability, theorizing, and confirmation/disconfirmation (Tart, 1975).

By providing a more accurate and complete view of our psychological apparatus, our mind, consciousness research can aid other disciplines too. As Kubie (1954) points out:

A discipline comes of age and a student of that discipline reaches maturity when it becomes possible to recognize, estimate, and allow for the errors of their tools. . . . Yet there is one instrument which every

discipline uses without checking its errors, tacitly assuming that the instrument is error-free. This, of course, is the human psychological apparatus.

Like statistical methods, consciousness methods, as well as the particular findings themselves, may help other researchers sophisticate their procedures and analyses.

A final reason to consider Consciousness Studies a separate discipline is the subjective feelings of those in the field. Consciousness colleagues in a variety of universities, departments, and nonacademic occupations feel as much akin to one another as to their departmental colleagues, if not more so. This feeling of shared interests and perspectives is a powerful uniting force which undercuts disciplinary differences. Although there is little institutional structure reflecting these shared ideas and values, the trust, common interests, and enjoyment form an invisible Department of Consciousness Studies.

### *Mindmagicians*

Mindpower is more fascinating than machine power. Such books as the Carlos Castaneda series and works by Tart, Ornstein, and Grof surprised their publishers by selling well in a hitherto unseen market. Best sellers such as *Drawing on the Right Side of the Brain* (Edwards, 1979) are introducing consciousness education to teachers and parents. *Anatomy of an Illness* (Cousins, 1979) illustrates this interest in (holistic) health and wellness. I don't want to make my case seem stronger than it is; I'm not saying that consciousness culture is now dominant, only that it will be if current trends continue. For the present, it is a clear cultural leitmotiv.

### *Want Ads*

What new organizations and industries may evolve? Prophecy is not my line, but enough is clear now to spot a few needs.

## EDUCATION

Introduction of consciousness teaching in classrooms, as content as well as practice.

Rewriting textbooks and curricula to include consciousness ideas.

Adding consciousness teaching techniques in colleges of education.

Research institutes to study consciousness on both applied and basic levels, a consciousness think-tank.

Foundations, institutes, and professional organizations to develop these possibilities.

## HEALTH AND THERAPY

Research institutes to examine the relationships of SOC's to mental and physical health.

Consciousness treatment and development centers, to apply what is found in research, e.g., psychedelic treatment centers and mind development centers.

Professional training institutes to teach this new specialty and to retrain existing professionals.

Certification and licensure, standards, boards, agencies, and professional standards committees.

Holistic health centers. Many are already thriving.

New centers and/or programs to train consciousness counselors and therapists.

Rewriting and republishing of therapy books to include consciousness.

## INDUSTRY AND BUSINESS

Biofeedback instruments, e.g., Kirlian biofeedback devices need to be invented.

Centers to teach executives, engineers, etc., to use their consciousness capacities.

Consciousness exploration as motivation, transcendence as a need beyond self-actualization in Maslow's hierarchy.

Long-range planning seminars and institutes.

## GOVERNMENT

The use of consciousness as a criterion for laws, regulations, licenses.

Accreditation standards.

Recognition of a consciousness constituency.

Funding of research on consciousness and possible benefits, and on problems coming from its development.

What role does LSD play in this? As the most powerful of many consciousness techniques, it dramatically draws attention to these needs. As it has been officially neglected and misunderstood, it points to our neglect and misunderstanding of the whole consciousness area. As a stimulator of consciousness research in the academic and mental health communities, it is likely to encourage development throughout our culture.

## *Peace*

We think of peace as a political and social phenomenon, seldom recognizing that these surface experiences interact with deep layers of the mind. Experienced LSD researchers come in touch with deep internal responses through the drug's magnification of external events. Conversely, experiencing a cluster of internal feelings/memories/fantasies/thoughts colors the external world. At the perinatal level there are two clusters (BPMs) which respond strongly to outside stimulation and contribute to warlike feelings.

Basic Perinatal Matrix II involves feelings of constriction and helplessness; it is appropriately called "No Exit Hell." BPM III represents enormous energy, natural and man-made cataclysms, especially violence and wars; it is appropriately called "Titanic Struggle."

The wrong set of social and economic circumstances brings these BPM's to the fore. For example, Grof noticed remarkable detailed similarities between the memories of Nazi concentration camp survivors and the unconscious fantasies of people who had lived more ordinary lives (Grof, 1977). He hypothesizes that the situation within the camps, especially toward the end of the war, activated BPM's II and III, stimulating the camp guards to enact violent and sadistic urges that inhabit these clusters.

War activates these BPM's and strengthens them, just as their power is called on to justify war. As countries wind themselves up to go to war, their leaders use perinatal symbols to marshal public opinion, not consciously, but because the war-instigating symbols feel right; and they feel right because of this connection. Hitler used the BPM sequence to manipulate his people: (1) BPM I, the "Good Womb," was symbolized by tales of the past golden age of the Germanic peoples; (2) BPM II, "No Exit Hell," was the present, constricted by external and internal enemies, intensified by economic disaster; the need to get out was expressed symbolically as the desire for expansion, *lebensraum*; (3) the way out was titanic struggle (BPM III), and (4) the birth of a 1,000 year Reich (BPM IV). De Mause found this imagery to be typical in nations which are preparing for war intentionally or merely blundering toward it (cited in Grof, 1977).

While the informed public recognizes shallow psychodynamic-level appeals to sexual interest, power, status, and so forth in advertising and propaganda, we are not so aware of manipulation on the perinatal level. Until we recognize this, humanity will have a short war fuse which can easily be lit by many social, economic, political, and cultural situations. Other situations can transform this destructive energy into creative, constructive, socially-beneficial actions. What are the perinatal consequences of social conditions? What are the social consequences of perinatal conditions?

As we come to understand the human mind more completely, we will naturally see its roles in war and peace more completely. The observations, speculations, and questions above suggest how war and peace studies can be enriched by a fuller understanding of mind and consciousness. This is merely one illustration of the possibilities of consciousness analysis in the social sciences.

### *Freedom of the Mind*

Who has the right to control your mind? To explore it? To use it? With the invention of consciousness techniques, a new kind of freedom faces a new kind of control. People want to explore and develop their minds, and psychedelics are an efficient way to do so. This desire is part of human nature, but law and social ignorance block the way. I propose that we recognize a general human right: the right to explore, control, and

develop one's mind. Other people or society at large can limit this right only to the degree they are affected. It will not be so easy to delimit this limitation.

### *The High Cost of Bad Law*

When comparing the scientific and medical writings on LSD with sensational newspaper, popular press, and TV accounts, a startling observation leads to a startling conclusion. In the scientific and medical research reports, psychological damage is almost missing; in the popular news it is featured. During legal research the patient or client is carefully screened and expensively prepared for the experience. The dosage and its purity are known. The setting, which is a major influence, is chosen to maximize safety and minimize danger. And a qualified professional is on hand to assist. In cases that make the popular press, on the other hand, consciousness adventurers are neither screened nor prepared. The dosage and purity are unknown. The setting is random and often unpleasant. Professional help is absent. These different conditions account for the rarity of serious problems in the scientific reports and the presence of frequent tragedy in the popular reports.

All the specific unfavorable conditions derive from one larger situation: LSD is illegal. In the legal situation, the LSD-taker can be prepared and high-risk people screened out; the dosage and its purity are assured; setting can be planned for optimum benefit. All this is difficult in illegal situations. Under present laws, it is illegal for a professional to administer LSD; and fear of police and public exposure increase psychological stress at a time when the person is most vulnerable. Given LSD's magnifying property, this fear can become psychologically overwhelming. In an unstable person it could be fatal. By driving LSD use underground, we multiply its dangers while minimizing its benefits.

### *Policy*

Given the consistent failure of anti-LSD legislation to stop use since the mid-sixties, what is the most responsible course for public policy? Over-the-counter purchase and prescription by untrained professionals are both risky. I propose centers to screen and prepare those who need or wish to take psychedelics. We need to provide a place to administer doses of known purity and strength under qualified, specially-trained guidance and with optimal set and setting. Each state and most large cities could use several psychedelic centers. Major universities, medical schools, and research institutes would also benefit from these centers. A professional staff training program would have to precede the establishment of such institutions.

After incubating for a quarter of a century, after being repressed by governmental and professional restraints for a decade and a half, after struggling for recognition and acceptance, psychedelic research is finally breaking through to the clear light of evidence and reason. Intellectual curiosity, civic duty, professional obligation, humanitarian values, and moral responsibility provide grounds for further research.

For me (and I assume for some of my coauthors) my most intensely intellectually stimulating, short-term experiences have been psychedelic sessions. Psychedelics open wide the doors of learning. Where will those mind-doors lead? Only when we do additional research will we know.

Most of all, psychedelics are just one group among many consciousness methodologies. There are also certain aspects of biofeedback, meditation, hypnosis, prayer and other spiritual practices, other mind-drugs, yoga and other movement disciplines, nutrition, t'ai chi and the consciousness martial arts, sex and exercise routines, training in intuition, relaxation and visualization....The list could go on for hundreds of trainings, spiritual paths, and esoteric fields. Research might be done in cooperation with groups which practice these. What insights, if any, might they have about the human mind? Only when we do more research will we learn.

For a wandering, directionless culture the full development of our minds is a project equal in scale to pioneering west of the Appalachians or exploring outer space. A new cultural mythic ideal is emerging: the myth of the fully developed mind. It is an eminently democratic ideal. Only some can become adventurers on land or in space, but in mind exploration, everyone is at the frontier.

#### *Note to My Colleagues*

"The rejection of any source of evidence is always treason to that ultimate rationalism which urges forward science and philosophy alike."

—Alfred North Whitehead

I write this, not expecting you to believe what you read here just because I say so, but hoping this essay will interest you enough to examine LSD research yourself. If you apply the same research standards and spirit of open intellectual inquiry to this body of research as you apply to your own work and to the reports you read, you'll find that psychedelic research raises as many exciting questions for you, your students, and your field of expertise as it does for me and mine. For 2 decades reason, science, and philosophy have been betrayed because of our irrational rejection of psychedelic evidence. It is a professional duty to help redress this error. When you read the evidence, I think you'll see it that way, too.

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## AFTERWORD

One of the people we asked to write for this book replied that after long thought he had to decline, because he feared the effect on his ability to support himself and his family if he said what he really thought about psychedelic drugs. This may be an unusually strong expression of a feeling that is more common in milder forms. Anyone, whatever his views on the drugs themselves, ought to recognize that it is an unhealthy situation in a free society. Even if this kind of fear is not common—even if it is not justified—the fact that it exists at all suggests something seriously wrong in our social response to psychedelic drugs. They were once regarded by some as the great liberating force of our time, the destined sacrament of the Aquarian Age, and by others as a threat to sanity and civilized society. In the last 10 years, since the end of the psychedelic craze, they have been neglected almost entirely. All these attitudes, as the essays in this anthology suggest, are wrong, but apparently they can still affect people's actions to the point of self-censorship.

It is hard to achieve balance in our thinking about psychedelic drugs because the response to them is intimately bound up with a whole set of attitudes about everything from drugs in general to mysticism in general. As a drug abuse problem, LSD and its relatives are no longer a very serious issue. There has probably been a moderate decline in illicit use of psychedelic drugs, and there has certainly been a substantial decline in publicity about it. We are not ever likely to face an epidemic of psychedelic drug abuse again. The question now is not how to get these drugs off the streets—which is probably impossible anyway—but how to get them back into laboratories, hospitals, and other supervised settings. The irony becomes obvious in rereading the public debates of the sixties. The most determined opponents of the drug culture and advocates of restrictive legislation continually warn against allowing the concern about abuse of psychedelic drugs to prevent legitimate research. But that is in effect what we have done. Uncontrolled use continues, probably at the same level it would have reached even without the laws, while controlled legal use has become impossible. We should arrange ways for people to take psychedelic drugs responsibly under appropriate guidance within the law, and a way for those who want to administer them to volunteers for therapeutic and general research to do so. This is not the place to go into details about informed consent and selection, preparation, and training of subjects and guides. But it is important to keep in mind that from 1950 to 1962, when LSD and mescaline were more freely available within the law than they are ever likely to be again, there were very few reports of adverse reactions.

To discuss how to handle the problem of psychedelic drugs within the present system of rules and institutions, however, is to suggest what a restricted and historically peculiar system it is. LSD and its relatives are treated for research purposes very much like a new antibiotic, as medicines

to be tested for specific, concrete, limited efficacy and safety and accepted or rejected on that basis. In other words, the model is Western physical medicine of the last 50 years. Compare the great variety of more or less successful alternatives: Huichol peyote ceremonies, Mazatec curing rites, vision quests, psycholytic therapy sessions, the Native American Church. These are the arrangements that arise naturally in any culture where the drugs are not suppressed, and analogues of them were developing among us even when the LSD abuse problem was at its height. They still exist, but they have been driven underground, and we have effectively foreclosed our choices. For us anything called a drug must be either a simple medicine or a "drug of abuse." Evaluating psychedelic drugs in the same way that we evaluate aspirin will always be enormously to their disadvantage, since they do not bring guaranteed relief for any simply defined problem. The Mexican Indian who said, "Aspirin is a drug, peyote is sacred," was making a distinction that our laws do not permit.

Using different analogies makes the anomalies in our laws and attitudes obvious. For example, as a voyage and an adventure, taking LSD might be compared to flying a plane or climbing a mountain. Psychedelic drug use as a form of spiritual or psychological exploration might be compared with methods like kundalini yoga, Tantra, or the more emotionally intense forms of psychotherapy, all of which induce drastic changes in consciousness that may occasionally endanger emotional stability for the sake of some alleged insight, awakening, or realization. Even psychoanalysis can produce psychotic reactions. Yet no one considers outlawing any of these practices. To many people familiar with psychedelic drugs, such comparisons seem more appropriate than an analogy with antibiotics or aspirin, or even with drugs used mainly for pleasure or because of addiction.

Consider another analogy. Imagine that no one has ever remembered his dreams before, except a few widely ignored mystics, primitives, and madmen. Then someone invents an electrical gadget that permits them to be recalled. At first, dreams come as a revelation. People who use the machine are overwhelmed by their depth of emotion and symbolic significance. They rush out to look up the obscure literature about this neglected state of awareness. Psychologists discover that dreams are the royal road to the unconscious. Others examine them for prophecies, philosophies, and religions, clues to personal salvation and social revolution. Meanwhile, there are the many who have never remembered their dreams and do not understand why anyone considers them important or useful; they declare it all mental illness and social decadence, and demand that the machines be outlawed. Ultimately the dreamers too become somewhat disillusioned. Remembering and interpreting dreams provides no sure cure for any illness and no obvious alternative view of the world. Their meaning for art, philosophy, and religion is ambiguous. Many dreams are unpleasant or frightening. People sometimes act foolishly in following the commands of their dreams. Some dream interpretation is superstitious, some of the popular dream interpreters are of dubious character, and some of the dream cults have repellent practices. Dreams are not the answer.

One possible outcome is that we decide to record and study dreams, relate them to other states of consciousness and to neurophysiology, find out their possible scientific, therapeutic, and creative uses, and so on, while

cautioning against overvaluation of them. Another possibility is withdrawing in fear, declaring that we were meant to forget our dreams and that remembering them is pathological and socially debilitating, and finally suppressing the means by which they are remembered. We have removed a source of disturbance, at the price of denying part of our own potential. Psychedelic drugs resemble this imaginary machine. They sometimes allow people to see things about themselves that they did not know before, without telling them how to interpret and act on what they see. We have the choice of ignoring and suppressing this knowledge or finding ways to make use of it.

One of the main problems is that we have no appropriate classification for psychedelic drugs. We cannot regard them as divine: should we then treat them like aspirin or heroin? Are they outlawed because we fear drugs, or because we fear the social effects of altered states of awareness, religious intensity, and mysticism? LSD use may be conceived as part of a drug problem that also includes something as utterly different as heroin addiction; it may also be seen as part of a social trend toward irrationalist religious enthusiasm combined with scorn for gainful labor and political participation; and these fears are in practice inextricably entangled.

In modern society we are uneasy about experiences we cannot quickly classify. We are unwilling to tolerate much ambiguity, for example, about whether an activity is religious ritual, medicinal, or recreation, and our legal arrangements depend on these classifications. Use of psychoactive drugs in general and of psychedelic drugs in particular crosses these lines and muddies these distinctions, and that appears as a threat to control and rationality, a problem for the law and society. We have chosen, in effect, to divide psychoactive drugs into three categories: first, medicines, second, drugs that may be used for pleasure (alcohol is the main example) and third, so-called drugs of abuse, a few of which also have medical uses. Psychedelic drugs have been classified as drugs of abuse without medical uses, and our legal and social attitudes toward them follow from that. Some of the hostility to psychedelic drugs, especially among people who are unsophisticated about them, is based on the assumption that they are just another exotic vice providing enviable but dangerous thrills, which like all such stereotypical vices can also drive the user into addiction, madness, and despair.

But at a deeper level the social response to psychedelic drugs is also connected with their users' tendency to revert to religious language and interpretations in talking about them. The idea of drug use as a religious practice—in fact, of any connection between drugs and religion—is one we are willing to indulge in pre-industrial cultures but violently reject for ourselves. Orthodox religion in the West long ago abandoned the sacramental use of drugs, so during the psychedelic era this field was appropriated by sects, eclectic or syncretic, which challenged the hegemony of established medical and police rules. The "LSD priest" (Timothy Leary's term) who led a "drug cult" was in effect a rival of the physician in importing and applying expertise on drugs. The old calling of priesthood or shamanism invaded territory claimed by modern medical professionals. Modern medicine was even likened to a state religion, with imposing organized strength, an intellectually powerful ideology, an ability to create and sustain faith, and the all-important support of civil authority; it was said to

treat unorthodox healing practices as heresy or pagan superstition to be eliminated by a mixture of official coercion and missionary activity. A religious war in which medicine served as the ideological arm of cultural orthodoxy was said to be disguised by scientific terminology and talk about health hazards.

These quasi-religious disputes suggest that our attitudes toward psychedelic drugs involve response to certain kinds of experience as well as certain substances. We have a mysticism problem as well as a drug problem, and its historical causes are older and more complicated than the causes of the drug controversy. Mystical, messianic, and shamanistic religion always comes into conflict with established authority after social evolution has reached the stage of hierarchical state systems. Any contact with divinity not subject to priestly mediation and formulation in terms of traditional doctrines appears as a threat to the political and social order, and may be classified as madness or vice. It is feared that all accepted standards will be abandoned in a frenzied search for some individual or communal self-realization.

The potential challenge to social order in all forms of religious intoxication, drug-induced or not, is augmented by special characteristics of modern Western society. Max Weber discovered a cultural foundation of modernity in the Protestant ethic of inner-worldly asceticism, which developed at about the same time as the scientific revolution. The Protestant ethic demands the attainment of salvation by work and activity according to rational norms within this world. In identifying religious duty with rule-governed mastery of everyday life, it opposes all forms of other-worldliness in religion, including the other-worldly asceticism of desert saints; it also opposes all mysticism, for in mysticism the highest virtue is to be possessed rather than active, a vessel rather than an instrument of divinity. Both conservatives and radicals in a society devoted to the extension of rule-governed control over the external world are likely to see great dangers in mystical and messianic religion, either because it is too passive and socially quietist, or simply because it may tend to devalue everyday life and economic activity.

This mistrust of religious virtuosity, whether it takes the generic or the specifically modern form, should not be regarded as mere cowardice, intellectual rigidity, or defense of established privilege. As the sadder aspects of hippie culture showed, all standards of truth and social responsibility may be abandoned in the search for spiritual revitalization by means of magic, myth, and mystery. Mysticism claiming ineffability is a common form of rebellion in rationalistic ages like our own; it can be useful in moderating the excessive pretensions of intellect, but the danger is that it will turn into a mere plea of impotence: a denial of reason and an admission of incapacity to cope with social problems that takes the form of quietism or messianic fanaticism.

So the belief that psychedelic religiosity may cause a breakdown of social order (as conservatives fear) or abandonment of the struggle for social change (as radicals fear) is no more and no less reasonable than the fear of a breakdown of individual mental stability during a drug trip; in some circumstances it could be justified. But for the most part these circumstances do not now exist. As the essays in this book prove, the vision

achieved in ecstatic states usually depends for its social content on the intellectual set that is brought to it; once it recedes it can serve as a backdrop for action as well as passivity, and for moderate as well as extreme action.

If the self-image of modern Western society cannot easily accommodate virtuoso religion and mysticism, it also precludes the suppression of virtuoso religion and mysticism. Liberal principles demand free speech, freedom of worship, and the right of privacy. The government does not claim to know what sorts of experiences and thoughts its subjects should and should not cultivate. But drugs are a special case. We do not admit, even to ourselves, that outlawing psychedelic drugs could be in part an attempt to eliminate certain kinds of experience and thinking. By regarding them as merely exotic vice, dangerous instruments, or poisonous substances, we avoid the issue. Therefore, in the case of drugs, the liberal principles that prevent expression of the typical modern distrust of enthusiastic and mystical religion by legally suppressing it do not operate.

Psychedelic drugs are a borderline case in many ways—therapeutically, intellectually, and socially. The components of research, therapy, religion, and recreation in their use are hard to separate (the awkward term "consciousness-expansion" is an attempt to define a role for them by avoiding all these familiar categories). Since we do not know where to place them, they become an easy target for confused fears about drugs in general or matters unrelated to drugs. For example, the idea has been suggested that centers should be established where people could go to take psychedelic drugs in a safe environment. But are these centers conceived as analogous to resorts, amusement parks, psychiatric clinics, religious retreats, Outward Bound expeditions, or scientific research institutions? Without any further examination, the very ambiguity of purpose is enough to create hostility and suspicion. And in this field liberal governments feel justified in asserting themselves with the kind of confidence that only despotic governments display with respect to other social questions.

Our legal and political institutions, like our natural science and psychiatry, are failing to supply the complex response these complex drugs demand. We should show more confidence in our capacity to tolerate and make use of them. That demands, first, a more consistent application of liberal principles. We need to produce a suitable balance between individual choice and protective authority, and in doing this it is probably useless to try to find replacements for the existing inadequate conceptual categories. We simply have to tolerate some openly recognized ambiguity in dealing with psychedelic drugs. The old forms of religious justification, for example, are obviously no longer plausible. Except for a few isolated individuals and groups like the peyote church, intoxication can no longer be sacred in the primitive and ancient sense, no matter how intensely religious it may seem as pure experience. Too much has been changed by the intellectual and social revolutions of the modern age; there is no point in mourning the loss, if it is one.

But we have something to learn from religious forms of drug use, especially about the protective and assimilative function of ceremony. Pre-industrial societies might also have something to teach us about the proper balance between democracy and authority in managing psychedelic drugs. When primary religious experience is no longer restricted to specially

qualified charismatic individuals, the resulting democratization presents special dangers and opportunities. The danger is that everyone will think himself qualified to start his own religion, as Timothy Leary once half-facetiously recommended, and some sort of authority and tradition is needed to avoid this parody of liberal individualism.

For example, in his last novel, *Island*, Aldous Huxley tried to salvage a communal significance for the drug experience by imagining a **Utopia** in which psychedelic drugs play an integral part. On his fictitious island in the Indian Ocean, a decentralized political system and a Western science and technology stripped of their excesses are guided by a Buddhist philosophical/religious tradition, with the help of a psychedelic drug called *moksha*-medicine that is used on carefully defined occasions, especially by the dying and in initiation rites. Huxley's Utopia avoids the danger of excessive individualism by an emphasis on community, discipline, and tradition in the use of psychedelic drugs. The usefulness of the drug depends on the quality of the social system and not the other way around. He also avoids the cultural limitations of primitive mythologies and communities by incorporating the most tolerant and ecumenical of the great world religions and the most universally applicable body of human intellectual achievement.

Unfortunately, Huxley is pessimistic about his own solution, at least for the short run. His **Utopia** survives only because it is an island that has been fortunately isolated for generations from the malevolent forces of the modern world. In the moving and horrifying final chapter, it is destroyed in a coup d'etat by a neighboring ruler who represents Oil, Progress, Spiritual Values (Huxley's ironic capital letters), military force, lying propaganda, and demagogic tyranny in a combination with all the worst features of capitalism, communism, and third-world nationalism. If the fate of Huxley's island turns out to be the fate of the world, there will certainly be no place in it for psychedelic drugs. Whatever their dangers and potential for abuse, they are worse than useless to a modern despotism. Unlike Huxley's earlier invention, *soma*, they do not reconcile the user to a routine or keep the fires of the intellect and passion burning low. On the other hand, the hippie idea of drugging ourselves into individual and social salvation is obviously illusory, and Huxley certainly did not mean to promote that illusion.

Something in the nature of our society and of the drug trip itself tends to make us fall into attitudes of worshipful awe or frightened contempt when thinking about psychedelic drugs. It is as though they had to be either absolutely central or beyond the periphery of normal human experience. But in primitive shamanism that is not what happens; instead, at least ideally, "the otherwise unfettered power of the world beyond human society is harnessed purposefully and applied to minister to **the** needs of the community." (Lewis, 1971, p. 189). That is just what technology, including drug technology, is supposed to do in our society. We should find a modest role for psychedelic drugs, not deifying or demonizing or ignoring them, and distinguishing rational from irrational fears. The metaphysical hunger that provides one reason for the interest in these drugs is a permanent human condition, not an aberration that is created by the drugs

nor one that can be eliminated by suppressing them. Huxley's *Island* expresses not faith in psychedelic drugs, which would be a form of idolatry, but hope for mankind. It dramatizes the conviction that the drugs can be used, rather than condemned and neglected, and that finding a way to use them well is a test for humanity. We should use our resources of intelligence, imagination, and moral discernment to face that test.

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